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Team formulation in Practice: A Framework Analysis of examples from UK Clinical Psychology practice

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Thesis Abstract

Background: Team formulation is an increasingly popular practice within Clinical Psychology. However, the extant literature is limited to a small body of peer-reviewed research which employs unstandardised definitions and reports varied implementation of team formulation in practice. The absence of a consistent understanding and practice of team formulation complicates both the identification and evaluation of key processes that enable workable team formulation practice. Describing practice-based instances where Clinical Psychologists have experienced workable implementation allows for identification of the key characteristics of this practice as well as an understanding of the factors that might help/hinder implementation.

Aims: In the context of Clinical Psychology practice in the UK, this study aimed to:

1. Characterise the perceived forms, functions, and outcomes of team formulation
2. Understand whether/how team formulation is evaluated
3. Identify factors that may support/obstruct perceived 'best practices' in team formulation – based on practice-based examples of successful and unsuccessful implementation

Method: We conducted an online survey of 49 UK Clinical Psychologists with experience of involvement in team formulation in practice. Participants were asked to describe two detailed examples of team formulation in practice. Further, participants answered questions regarding team formulation implementation and evaluation. Professional membership networks, social media, and snowballing were used for recruitment. Responses to free text questions were analysed using Framework Analysis.

Results: Seven types of team formulation with different functions were found based on examples form practice. These had varying foci and key features. Further, evaluation was targeted at three levels: (1) Service-level indicators; (2) Team formulation indicators (quality, perceived effectiveness and staff experience); and (3) Service user-level indicators. However, issues of specificity, sensitivity and validity were noted for reported measures/methods.

A number of factors perceived to support and obstruct team formulation were identified and were common across team formulation types. Managing teams' distress within team formulation sessions was an important factor for successful implementation. Factors such as the group structure, managing difference, the level of collaboration and engagement, and linking the team formulation to meaningful changes to practice were also highlighted as factors supporting workable implementation.

Conclusion: This study highlights specific team formulation functions and forms which could be used to standardise practice. Further, proposed common factors that facilitate workable implementation across team formulation types are provided. This study offers an understanding of workable team formulation in practice, however, there remains a dearth of understanding about "effective" team formulation. Future research should focus on validating and testing the identified helpful factors to further our understanding of team formulation process-outcome links.

Acknowledgements

I am hugely grateful to all the Clinical Psychologists who gave their time and energy to participate and share their team formulation experiences to make this research possible. Thank you everyone.

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I would also like to thank my research supervisors Dr Nima Moghaddam and Dr Danielle De Boos for their continuous and unwavering support over the past three years. I have greatly appreciated your patience, advice, and encouraging supervision throughout this process. I could not have asked for better supervisors! Thank you.

Thank you to my Mum who meticulously proof read my entire thesis. George, you kept me going right until the very end of thesis hell and I cannot thank you enough for believing in me when I didn't. Thank you to my furry study buddy, Lilly, who kept me company on thesis writing days.

Finally, thank you to the 2015-2018 Trent Cohort. I'm so grateful to have shared the past three years with you and look forward to us making our mark as Clinical Psychologists.

Statement of Contribution

Nicole Geach was responsible for applying for ethical approval, reviewing the literature, recruiting participants, collecting and analysing data, and the written report.

Dr Danielle De Boos and Dr Nima Moghaddam provided oversight and monthly supervision throughout the duration of the project.

Summative feedback following examination of two research assignments associated with this thesis (research proposal and systematic literature review) was given by tutors on the Trent Doctorate in Clinical Psychology: Dr David Dawson; Dr Roshan Das Nair (Research Tutors) and; Dr Mark Gresswell (Programme Co-Director).

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Table 1.
List of abbreviations ordered alphabetically

Abbreviation	**Full Term**
AMH	Adult Mental Health
BPS	British Psychological Society
CAMHS	Child and Adolescent Mental Health Service
CAT	Cognitive Analytic Therapy
CBT	Cognitive Behavioural Therapy
CoP	Communities of Practice
DASS	Depression Anxiety and Stress Scale
DCP	Division of Clinical Psychology
EBP	Evidence-based Practice
HCPC	Health and Care Professions Council
HoNOS-LD	Health of the Nation Outcome Scale – Learning Disability
IDD	Intellectual and Developmental Disability
MDT	Multi-disciplinary Team
N	Number
NHS	National Health Service
P	Participant
PBE	Practice-based Evidence
RCT	Randomised Controlled Trial
RPG	Reflective Practice Group
SU	Service User
UK	United Kingdom

A SYSTEMATIC REVIEW OF TEAM FORMULATION IN CLINICAL PSYCHOLOGY PRACTICE: DEFINITION, IMPLEMENTATION, AND OUTCOMES[1]

[1] This review was published in the following journal:
Geach, N., Moghaddam, N. G., & De Boos, D. (2018). A systematic review of team formulation in clinical psychology practice: Definition, implementation, and outcomes. *Psychology and Psychotherapy: Theory, Research and Practice*, *91*(2), 186-215.

Abstract

Purpose: Team formulation is promoted by professional practice guidelines for clinical psychologists. However, it is unclear whether team formulation is understood/ implemented in consistent ways – or whether there is outcome evidence to support the promotion of this practice. This systematic review aimed to: (1) synthesise how team formulation practice is defined and implemented by practitioner psychologists; and (2) analyse the range of team formulation outcomes in the peer-reviewed literature.

Method: Seven electronic bibliographic databases were searched in June 2016. Eleven studies met inclusion criteria and were quality assessed. Extracted data were synthesised using Content Analysis.

Results: Descriptions of team formulation revealed three main forms of instantiation: (1) a structured, consultation approach; (2) semi-structured, reflective practice meetings; and (3) unstructured/informal sharing of ideas through routine interactions. Outcome evidence linked team formulation to a range of outcomes for staff teams and service users, including some negative outcomes. Quality appraisal identified significant issues with evaluation methods, such that overall, outcomes were not well-supported.

Conclusion: There is weak evidence to support the claimed beneficial outcomes of team formulation in practice. There is a need for greater specification and standardisation of 'team formulation' practices, to enable a clearer understanding of any relationships with outcomes and implications for best-practice implementations.

Practitioner Points

- Under the umbrella term of 'team formulation', three types of practice are reported: (1) highly structured consultation; (2) reflective practice meetings; and (3) informal sharing of ideas.
- Outcomes linked to team formulation, including some negative outcomes, were not well evidenced
- Future research using robust study designs is required to investigate the process and outcomes of team formulation practice.

Introduction

Team Formulation

Working psychologically with teams is reported to be a fundamental role of practitioner psychologists (Health and Care Professions Council; HCPC, 2015). Using formulation with staff groups has become an increasingly popular way of engaging and working collaboratively with teams (Division of Clinical Psychology; DCP, 2011). Team formulation has been broadly described as the "process of facilitating a group of professionals to construct a shared understanding of a service user's difficulties" (Johnstone & Dallos, 2014, p. 5). It is argued that team formulation is one way for practitioner psychologists to improve service effectiveness (Onyett, 2007) and develop a leadership role within teams (Skinner & Toogood, 2010). Thus, team formulation is widely encouraged, from clinical psychology training (British Psychological Society, 2015) to consultancy level (Skinner & Toogood, 2010).

However, it is unclear if the extant research supports the use of team formulation in services. Team formulation is a developing area of research and a number of issues have emerged. There is no homogeneous definition of formulation (Johnstone & Dallos, 2014) and this general definitional issue likely extends to the more specific form of team formulation. In accordance with this, there appear to be inconsistencies in the way that team formulation is carried out in services (Cole, Spendelow, & Wood, 2015). If team formulation is understood and implemented in different ways (without systematic delineation of different forms) it becomes difficult to draw evaluative conclusions about 'team formulation' as a unitary practice. There is a need to clarify: (a) the definition; (b) the implementation; and (c) the outcomes of team formulation.

Definition of Team Formulation

The general practice of formulation has been broadly defined as "a hypothesis about the causes, precipitants, and maintaining influences of a person's psychological, interpersonal and behavioural problems" (Eells, 2006, p. 4). However, variation in factors such as the practitioner's training, theoretical preference, and work context (Flinn, Braham, & das Nair, 2015) means that there are inconsistencies in how formulation is interpreted and operationalised.

This general definitional issue appears to hold in the context-specific application of formulation to teams and has arguably led to loose and heterogeneous operationalisations of 'team formulation' within research. For example, early research positioned team formulation as psychological consultation (Lake, 2008) suggesting that the psychologist is an 'expert' who essentially presents the formulation to other professionals (team members as recipients). In contrast, more recent research appears to conflate team formulation with reflective practice (Wilcox, 2013). This latter definition suggests that team formulation is an unstructured space which requires staff to express their internal, emotional experiences.

These contrasting definitions indicate a degree of confusion as to what team formulation is. This poses a problem for research as the extant literature may not be specific to the same phenomenon, an issue which also has clear implications for how team formulation is operationalised in practice.

Team Formulation in Practice

A non-systematic review (Cole et al., 2015) aimed to describe what psychologists do when they implement team formulation within services. Cole et al. (2015) indicated that there were contrasting modes used e.g. whether practiced through a formal meeting (Ingham, 2011) or through informal conversations (Christofides, Johnstone, & Musa, 2012). Further important variations in implementation were acknowledged, but not expounded in their review. The non-systematic nature of the Cole et al. (2015) review raises questions about quality and repeatability as it is unclear how studies were selected or how conclusions were derived. Therefore, further *systematic* appraisal and synthesis of the studies which explain how team formulation is implemented is warranted.

Heterogeneity in the practices that are collated under the umbrella term of 'team formulation' has implications for understanding the outcome evidence. Critically, it is unclear whether evaluations of 'team formulation' pertain to a singular practice. Diversity in definition and implementation can act as a barrier to understanding outcomes evidence. For example, any inconsistencies in outcomes may simply reflect inconsistent practices; conversely, any consistencies in outcome may be produced by distinct mechanisms (making it difficult to identify the core components of team formulation).

The Outcomes of Team Formulation

As the majority of the extant research is single-service evaluations of pilot work (e.g. Ingham, 2011), a broader understanding as to how useful team formulation is, and who it may be useful for, is needed. Outcomes are defined as a change which occurs as a result of receiving an intervention (Department of Health, 2016) and can relate to services, staff, and service users. Reviewing team formulation outcomes, rather than the hypothetical benefits presented by the DCP (2011), allows for both positive and negative findings. As there is evidence that formulation can be received negatively by individual service users (Redhead, Johnstone, & Nightingale, 2015) adverse outcomes are important to consider for team formulation.

Rationale for Current Review

Formulation outcomes research, in general, is reported to "be lacking" (DCP, 2011, p. 26). Despite this, the DCP (2011, p. 9) list several putative benefits of team formulation at an organisational (e.g. enhanced psychological thinking) and individual staff level (e.g. increased positive attitudes towards service users). These potential benefits are not well evidenced, being drawn predominantly from opinion pieces and grey literature of a questionable quality. This raises concern as to the quality of the evidence on which these reported benefits (and rationale for the use of team formulation) are based upon. Indeed, the evidence for the perceived impact of team formulation for non-psychology professionals has been reported to be of poor quality due to issues relating to data collection and analysis (Blee, 2015). As a result of literature focusing on staff-related outcomes of team formulation, benefits or limitations experienced by the service user are not well conveyed in the literature.

Although guidelines for practitioner psychologists emphasise the important contribution of team formulation, the above-identified questions – about how team formulation is defined, implemented, and evaluated – restrict the potential for understanding whether/how team formulation can be beneficially implemented within services. Given the rise in popularity of this practice (Johnstone & Dallos, 2014) it is timely to review the peer-reviewed literature in light of these issues.

This review extends the work of previous reviews by exploring how psychologists define team formulation (which was not an aim of Cole et al., 2015), and how these descriptions translate into practice; and by synthesising outcomes at a broader level than reported by Blee (2015), who solely focussed on outcomes for non-psychologist staff members.

Aims and Review Questions

This review aims to synthesise the peer-reviewed literature in order to enhance understanding of how team formulation is defined and practiced. The review also aims to synthesise the outcome data that arise from these examples. The current review seeks to answer the following questions:

1. How do psychologists define team formulation?
2. How do psychologists implement team formulation?
3. What are the outcomes from team formulation?

Method

Search Strategy

Seven electronic bibliographic databases covering topic areas such as life sciences, healthcare, and psychology were searched on 18th June 2016. Using OVID, Allied and Complimentary Medicine Database (AMED, 1985 to June 2016), Health Management Information Consortium (HMIC, 1979 to May 2016), MEDLINE (1946 to June 2016), PsycINFO (1806 to June 2016) and PsycARTICLES Full text (1894 to June 2016) were searched. Elsevier Scopus (1960 – June 2016) was also searched. Cumulative Index to Nursing and Allied Health Literature (CINAHL PLUS with full text, 1981 to June 2016) was searched via the EBSCOhost interface. The reference lists of accepted articles were also screened.

Search terms[2] were developed by assimilating a list of keywords on the topic of formulation as highlighted by published articles (Christofides et al., 2012; Flinn et al., 2015) and theses (Blee, 2015; Stewart, 2014). Terms used to describe groups of professionals were selected from published psychological literature. The selected databases were scoped to see if the combination of terms were successful in identifying key articles in the topic area.

Formulation terms were: psychological formulation; case formulation; case conceptualisation; shared formulation; and shared understanding. These were used in addition (using an 'AND' Boolean operator) to team working terms: team; staff; group; professional; multi-disciplinary; meeting; reflective practice and consultation. The term "formulation" demonstrated an increased sensitivity but decreased specificity and so the prefix of psychology was used in line with the focus of this review (e.g. using "psycholog* formulat*" within the search strategy produced 270 results and "formulat*" increased the results to 2,229 in Medline).

Selection Criteria

The screening and selection process is summarised in Figure 1. A total of 2,764 titles, and where possible, abstracts were held against the inclusion and exclusion criteria

[2] See Appendix A for search terms

outlined in Table 2. Following this, 100 articles were selected for full-text review. (Full-text versions of articles were accessed using university library subscriptions. Where this was not possible, inter-library loans were used). The 100 full-text articles were appraised for eligibility using the screening tool[3]. Eleven articles met full criteria and were included in the synthesis.

Data Extraction

A data extraction form[4] was developed for this review using the three review questions as a standardised framework. Information on the definition, implementation, evaluation, and outcomes of team formulation were the focus of data extraction. Key descriptive information about each article was also recorded.

Quality Appraisal

The Critical Appraisal Skills Programme (CASP, Public Health Resource Unit, 2013) checklists for cohort studies, qualitative research, randomised controlled trials and case studies were employed. The Joanna Briggs Institute Critical Appraisal Checklist for Narrative, Expert Opinion and Text (McArthur, Klugárová, Yan, & Florescu, 2015) was used to assess the quality of opinion articles. To assess each article in line with this review's questions the quality of team formulation descriptions were assessed using two extra items. Item A considered if the definition and implementation were based upon relevant literature or theory and if descriptions allowed for replication and outcome measurement. Item B scrutinised if appropriate evaluation methods and materials were used and whether confounding variables were considered.

Each quality item was graded as either 'yes', 'partial', 'no' or 'unclear.' A rating of 'high', 'moderate' or 'low' quality based on the pattern of ratings throughout the checklist was used to represent overall quality (rather than generating a total score which assumes that all items are equally weighted). An a priori decision was made to retain studies of all quality. It was assumed that the number of articles would be limited and that including all studies would help to build an overall picture of the evidence.

[3] See Appendix B for screening tool
[4] See Appendix C for data extraction form

Table 2.

Inclusion and Exclusion Selection Criteria

Inclusion Criteria	Exclusion Criteria	Rationale
Population		
Setting or population relevant to practitioner psychologists (e.g. offender health, mental health, physical health, etc.)	Setting or population not relevant to practitioner psychologists	To reflect the broad work contexts of practitioner psychologists
Intervention		
Article contains a description of at least one of the three review areas: a) Team formulation as a concept b) Information about how team formulation was put into practice	Articles which did not include information on at least one of the three review areas.	To answer the three review questions. (No a priori definition of team formulation was used given that this was the nature of the first review question).
c) The outcome evidence reported as arising from team formulation	One professional receiving supervision from another only	Individual supervision was considered a different practice to team (i.e. more than two people) formulation
Is created for, or with, a service user (or difficulties associated with working with the service user/population)	Use of fictional case examples or articles which presented staff training in formulation only	The review focused on clinical practice in context and not on teaching formulation skills

Table 2.

Inclusion and Exclusion Selection Criteria

Inclusion Criteria	Exclusion Criteria	Rationale
Study Characteristics		
Articles written in the English language and accessible before 1st July 2016		Pragmatic reasons
In-press, in-preparation or published article in a peer-reviewed journal		Minimum threshold for quality. Acknowledging the potential for publication bias within the review, there have been no known published systematic reviews which have focused on this body of literature
Any study design		Assumed that methods of describing and evaluating team formulation would be heterogeneous
Any publication date		To yield enough studies for cross-comparisons

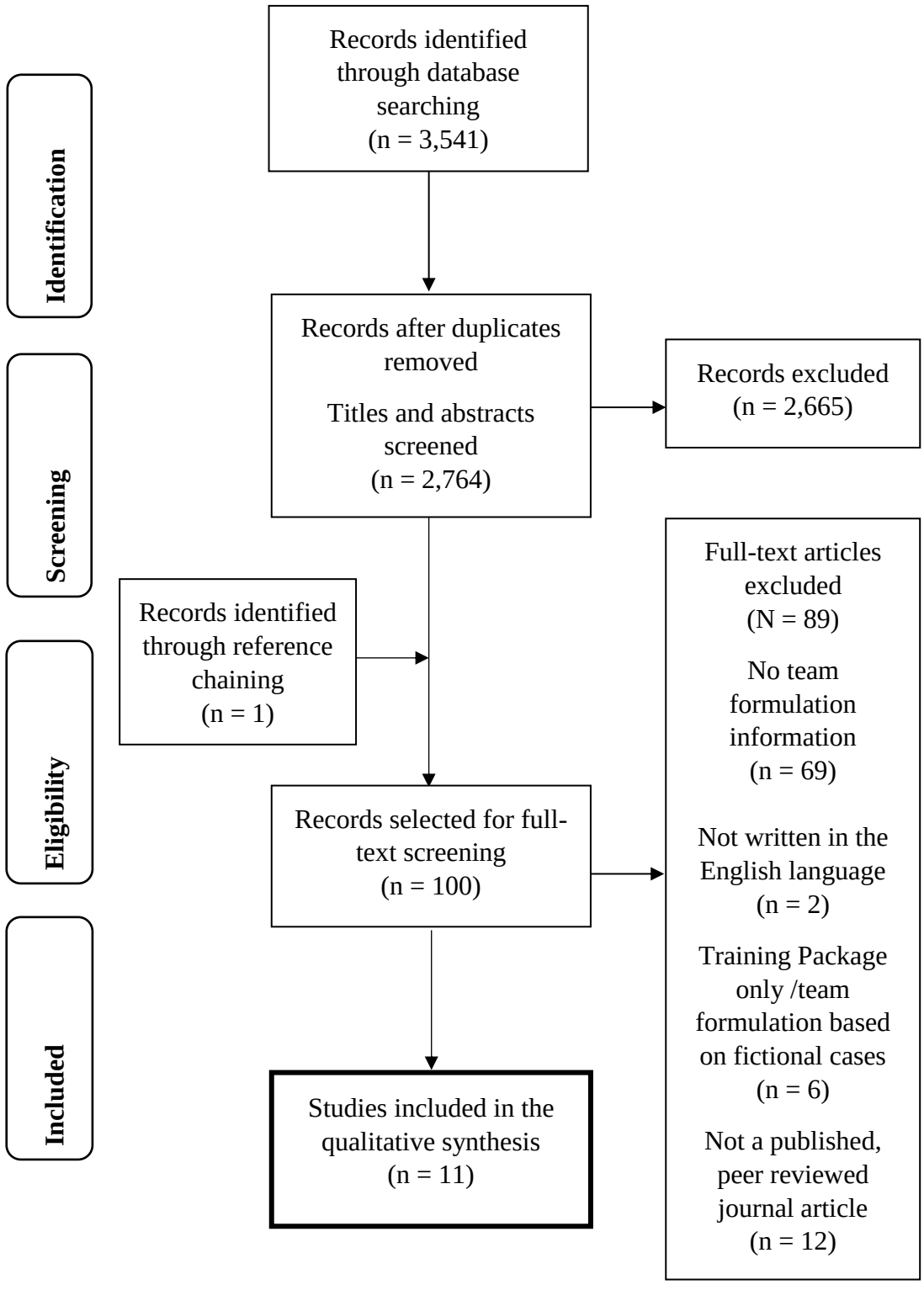

Figure 1. PRISMA Flow Diagram.

Data Synthesis

Considering this review's three, distinct and descriptive areas for synthesis, an integrative method of analysis was chosen. Integrative analyses aim to remain close to authors' primary data by aggregating findings into categories in order to synthesise the results overall (Hannes & Lockwood, 2012). Content analysis was used to synthesise quantitative and qualitative text into categories, organised by meaning (Cavanagh, 1997). Content analysis can be useful when synthesising data which are known to be varied and multifaceted (Elo & Kyngäs, 2008). Data are analysed and pooled for the purposes of communicating the frequency of findings using a synthesised, concise form (Elo & Kyngäs, 2008). Content analysis has previously been used to systematically review healthcare practice (Evans & Fitzgerald, 2002).

To answer the first and second review questions, verbatim units of text from each article which described what team formulation was (definition) and how team formulation was carried out (implementation) were extracted from any part of the article. Data regarding the definition were pooled and categorised deductively, using the DCP (2011) transtheoretical aspects of formulation[5]. Data were also processed inductively by coding the text to describe the content of the information. Data were then grouped and organised into categories based on their meaning. Categories were distinct from each other and were generated to produce a novel understanding of team formulation definition. The inductive process was repeated for team formulation implementation data.

To answer the third review question, outcome data from the results section of each study were extracted. Both qualitative (author-generated themes, sub-themes, and supporting quotations) and quantitative data (descriptive, numerical values and statistical findings) were deductively categorised as occurring either at the service, staff or service-user level and further grouped by the type of outcome domain. The findings were coded as either positive or negative. For quantitative data, the strength of change was coded as either statistically significant or not. The effect size for outcomes was calculated where means and standard deviation values were provided. Meta-analysis was not undertaken due to the heterogeneity of the outcome variables measured, measurement methods, and settings in which team formulation was practiced.

[5] See Appendix D for transtheoretical aspects of formulation

Results

Descriptive information of the 11 studies included in the review is provided in Table 3. Five quantitative (Berry, Barrowclough, & Wearden, 2009; Berry et al., 2015; Ingham, 2011; Ramsden, Lowton, & Joyes, 2014; Whitton, Small, Lyon, Barker, & Akiboh, 2016), three qualitative (Christofides et al., 2012; Murphy, Osbourne, & Smith, 2013; Summers, 2006), and three descriptive (Davenport, 2002; Rowe & Nevin, 2013; Wilcox, 2013) articles were retained. Three-hundred (predominantly qualified nursing and support) staff, ten clinical psychologists, and 41 service users were represented. All studies were published in the UK from various mental health, intellectual/developmental disability (IDD), and forensic services.

Quality of Included Studies

Table 4 provides a summary of quality appraisal ratings. Two studies were rated as low quality (Ramsden et al., 2014; Summers, 2006) and consideration was made during the analysis as to whether their contributions had undue influence on the overall findings of the review. The remaining nine studies were rated to be of moderate quality.

Berry et al. (2015) had a number of good quality characteristics (e.g. non-significant results were reported). However, the lack of measurement of confounding variables and scheduling of measurements across quantitative studies may have introduced bias into evaluations of team formulation. It was unclear if the reported changes were associated with team formulation or other factors. This omission significantly limits the extent to which quantitative outcomes can be linked back to the team formulation.

Regarding descriptive and qualitative articles, the level of transparency of reporting by authors varied. Two studies using a Thematic Analysis provided rationale for choosing qualitative methods (Christofides et al., 2012; Murphy et al., 2013). However, both authors reported favourable opinions of team formulation in their stance as researchers. Summers (2006) was judged to be of low quality due to information which was either missing or unclear e.g. the process of using Grounded Theory was not reported raising concerns as to how data were handled. Two opinion articles did not consistently substantiate their arguments as to the benefits of team formulation (Davenport, 2002; Wilcox, 2013). This issue poses a problem for readers who are unable to assess how well supported the results or opinions regarding team formulation are.

Table 3.

Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Berry et al. (2015) Cluster Randomised Design	Adult Mental Health, Inpatient Rehabilitation	To assess the feasibility and potential efficacy of team formulation	Framework to: link developmental and maintenance factors of problems; inform intervention; facilitate psychological thinking amongst staff; support SU recovery	One-hour meeting, psychologist led. Formulation includes SU's strengths, history, triggers, coping strategies, impact on staff and intervention plan	Length of Stay; Medication reductions; Relapse in mental health; Risk management; WAI; WAS; MBI; PCS; SU symptoms and functioning. N=74 ward staff N=36 SU	**Staff**: Intervention group rated sig. ↓ depersonalisation (MBI) than control group at outcome (d = -0.84) **SU**: Intervention group rated WAS sig. ↑ than control group at outcome (d = 0.83). Reported feeling ↓ criticised by staff than control group at outcome (d = -1.75)

Table 3.
Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Berry, Barrowclough, & Wearden (2009) Cohort Study	Adult Mental Health, Inpatient Rehabilitation	To develop formulations of SU mental health needs with staff teams and explore the effects of the formulation process on staff appraisals	Drawing together developmental and maintenance factors of problems including SU-staff interactions	90-minute meetings during handover period; psychologist led. Formulation includes SU's strengths, history, triggers, coping strategies, impact on staff and intervention plan	Likert Scales, based on IPQ and developed by authors. N=30 ward staff	**Staff related:** Sig.↑ positive perceptions of SU over time (d = 0.65)
Whitton et al. (2016) Cohort study	Forensic IDD, Medium and low secure inpatient units	To evaluate the usefulness of team formulation and consider the implications for care and treatment	Hypotheses linking problems together; provides predictions about SU; embedded in theory	Routine meetings, psychologist led, attended by a range of staff	Questionnaire developed by the author. N=89 ward staff	**Staff related:** Negative views of team formulation ↓ over time (d = -0.50)

Table 3.
Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Ramsden, Lowton, & Joyes (2014). Cohort study	Criminal Justice Staff, Personality Disorder Offender Pathway	To evaluate how formulation-focused consultation impacted upon staff understanding of SU, attitudes towards working with SU and confidence in their risk management of SU	Consultation; Collaboratively constructed case formulation to promote change, effective risk management and skills for working with SU	Highly structured, 1-2 hour meeting; psychologist led; systematically answering a series of questions about the SU; subsequent consultation report	Staff self-reported understanding, competency, and attitudes to working with SU (PDKASQ); Consultation Satisfaction Survey developed by the authors. N=46 criminal justice staff	**Staff related:** Sig. ($p<0.01$) ↑ in self-reported understanding, capability and positive attitudes to working with SU; No numerical data for supervision questionnaire

Table 3.

Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Ingham (2011) Single Case Design	IDD, Residential unit.	To pilot formulation workshops with direct care staff	BPS (2004) definition of formulation. Developing an understanding in collaboration with staff involved in the presenting problem	2x 3-hour workshops; psychologist led. Review of history via a timeline; education on formulation; exploration of factors in the occurrence and management of challenging behaviour	Idiosyncratic behavioural observations; Staff perceptions of impact of behaviour via likert scales; formulation workshop effectiveness via an author-developed questionnaire. N=7 direct care staff	**SU related:** ↓ staff perception of challenging behaviours; no longer at risk of placement breakdown **Staff related:** ↓ perception of severity and impact of behaviour; ↑ understanding of SU's problems; satisfied with team formulation

Table 3.
Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Rowe & Nevin (2013) Case series	IDD, challenging behaviour inpatient unit	To assess the feasibility of developing patient voice in formulation. To provide a person-centred bespoke solution for each SU to achieve this	BPS (2007) definition, with a focus on SU involvement in the formulation	Meeting led by psychology with MDT and external professionals. Inclusion of SU voice through visual and verbal modes of communication as well as functional analysis of presenting problems	Number and nature of action points arising from the meeting; Author perceived extent to which SU voice is understood and included within the formulation. N=4 SU	**SU related**: SU views were perceived to have been systematically included within the formulation; perceived ↑ in SU focused actions **Service Related:** Intended to include SU voice into care pathway as standard
Christofides, Johnstone, & Musa (2012). Qualitative	Adult Mental Health, Community and Inpatient Teams	To explore clinical psychologists' accounts of their use of psychological case formulation in MDTs	Creating a shared formulation guides SU care through informal discussions as part of an on-going process	Informal process of sharing ideas; 'chipping in' hypotheses on an ad-hoc basis e.g. informal discussions, joint working	Interviews analysed using Thematic Analysis. N=10 clinical psychologists	**Service related:** Psychologists viewed that staff value team formulation, have ↑ psychological understanding as a result

Table 3.
Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Murphy, Osbourne, & Smith (2013). Qualitative	Older Adults, Inpatient Dementia and Mental Health	To explore staff perceptions of psychological formulation consultation. To explore the ways in which formulation consultation impacted on staff's daily practice, and the mechanisms of change involved	BPS (2001) definition. Sharing formulation within consultation and creating a reflective space	Based on Dexter-Smith (2007) model including CBT formulation training. Weekly psychologist led sessions. MDT bring assessment information to jointly develop formulation. Further informal consultation provided	Interviews, analysed using Thematic Analysis. N=10 ward staff	**Staff related:** Author viewed that the nature of SU problem impacted on staff's perceived usefulness of formulation; Staff reported intent to modify interactions with SU **Service related:** mixed views about impact on perceived team efficiency

Table 3.
Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Summers (2006). Qualitative	Adult mental health, High dependency inpatient unit	To describe staff views of team formulation practice. To understand the benefits and limitations of this practice	Hypotheses about what happens in the SU's mind; making links between present and past; 'map' for SU and staff to make sense of care processes	Twice-weekly meetings. Review of SU history and focused on staff experience of the SU. Written up into a summary or diagram	Interviews analysed using Grounded Theory. N=25 ward staff	**Staff related**: ↑ self-reported knowledge, being heard; valued the process for bringing the team together, some staff reported negative views of the formulation and its impact
Davenport (2002) Opinion article	Adult Mental Health, Acute Inpatient Rehabilitation	To describe specialised practice	Creating a shared understanding around a SU and locating this within ward dynamics. 'Map or script' for both staff and SUs	SU's core care team meet with psychologist to develop the formulation of SU. Current and desired interactions with the SU are considered	None specified	**Staff related:** Author perceived ↑ levels of staff self-reflection **Service related:** Author perceived improved management of staff-SU dynamics, ↑ team collaboration

Table 3.
Key characteristics and findings of included articles

Author (Year) Study Design	Population, Setting	Study Aim	Definition of Team Formulation	Implementation of Team Formulation	Evaluation Methods	Outcomes of Team Formulation Practice
Wilcox (2013) Opinion Article	IDD, Community Team	To share information and reflections on the process of setting up team formulation meetings	'Multi-disciplinary reflective practice meeting.' Consultation when the team are stuck, split or scared	Focus on reflective practice, using a consultancy approach. Introduced at a time of transition. Monthly 2-hour meetings, psychologist led. Includes a focus on risk; limited use of psychological jargon	Author's reflections on the challenges and solutions to the meetings. Pre and post meeting questionnaires designed by the author. N = 19 community team members	**Staff:** Mean scores remained stable over time. No statistical tests used (sample underpowered)

Note. SU = Service User, WAI = Working Alliance Inventory, WAS = Ward Atmosphere Scale, MBI = Maslach Burnout Inventory; PCS = Perceived Criticisms Scale, IPQ = Illness Perception Questionnaire,
MDT = Multidisciplinary Team, PDKASQ = Personality Disorder Knowledge and Skills Questionnaire, BPS = British Psychological Society, IDD = Intellectual and Developmental Disability,

Table 4.

Quality appraisals of included studies by study type

	1	2	3	4	5	6	7	8	9	10	11	12	A	B	Rating	Comments
Randomised Control Trials Checklist (CASP, 2006)																
Berry et al. (2015)	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	-	Y	P	Moderate	Cluster design: confounding variables in the intervention clusters were not considered
Cohort Study Checklist (CASP, 2006)																
Berry et al. (2009)	Y	Y	N	U	N	P	Y	Y	N	P	Y	Y	Y	N	Moderate	Unclear if staff views were a product of desirability bias and whether change was sustained over time.
Ramsden et al. (2014)	Y	Y	N	N	P	N	U	U	P	P	Y	U	Y	P	Low	No valid baseline measurement and a large, unexplained attrition rate at outcome
Whitton et al. (2016)	Y	Y	N	P	Y	P	Y	P	P	Y	Y	P	N	P	Moderate	Outcome of interest was present at the start of the study. Exposure to team formulation varied widely.
Case Study Checklist (CASP, 2006)																
Ingham (2011)	Y	Y	U	Y	Y	N	Y	N	P	Y	Y		Y	P	Moderate	Confounding variables were not considered. Unclear why and how the single case was recruited
Rowe & Nevin (2013)	Y	Y	Y	U	U	U	Y	Y	Y	P	U		N	P	Moderate	Confounding variables were not considered and description of team formulation lacked detail

Table 4.

Quality appraisals of included studies by study type

	1	2	3	4	5	6	7	8	9	10	11	12	A	B	Rating	Comments
Qualitative Study Checklist (CASP, 2006)																
Christofides et al. (2012)	Y	Y	Y	Y	Y	Y	P	Y	Y	Y			P	P	Moderate	Ethical information was unclear. Researcher had a positive view of team formulation
Murphy et al. (2013)	Y	Y	Y	Y	Y	Y	Y	Y	P	Y			P	U	Moderate	Implementation process lacked detail. Unclear why only n=2 from Ward A compared to n=8 from Ward B were recruited
Summers (2006)	U	U	N	N	N	N	N	N	N	N			N	P	Low	Details unclear throughout e.g. recruitment, data collection and analysis. Themes were not well substantiated in some instances
Expert Opinion Checklist (Joanna Briggs Institute, 2015)																
Davenport (2002)	Y	Y	Y	N	N	P							P	N	Moderate	Positive impact of team formulation appears to be personal opinion and is not supported by evidence
Wilcox (2013)	Y	Y	Y	Y	P	Y							P	P	Moderate	Author developed questionnaire is unclear. Used with different numbers of staff at different points in time

Note. CASP = Critical Appraisal Skills Programme; Y = Criteria met; P = Criteria partially met; U = Unclear if criteria met; N = Criteria not met. A = item rating quality of team formulation descriptions; B = item rating quality of evaluations of team formulation

1. How do Psychologists Define Team Formulation?

Two studies (Rowe & Nevin, 2013; Whitton et al., 2016) did not specify what team formulation was and were not included in the synthesis for the review's first question. Definitions were found to be descriptions of implementation (how team formulation should be used) as opposed to offering an understanding of what team formulation meant. Content analysis of nine studies revealed four categories of definitional terms which appeared to differ by study design, as shown in Table 5.

Terms for team formulation.

One study (Christofides et al., 2012) described team formulation as an informal, on-going process. This included 'chipping in' hypotheses during interactions with team members, although participants acknowledged that this was hard to define. This study recruited clinical psychologists, other studies sampled non-psychology professionals, which may account for why informal team formulation was only reported by this study.

The remaining studies defined team formulation as a shared understanding. Staff contributed their ideas and experiences to generate a set of hypotheses (Wilcox, 2013) which formed a formulation product (Berry et al., 2009; 2015 Ingham, 2011; Ramsden et al., 2014) to explain the service user's presentation in the context in which they were receiving care (Davenport, 2002; Murphy et al., 2013; Summers 2006).

Four authors defined team formulation as 'formulation focussed consultation' or similar (Ingham, 2011; Murphy et al. 2013; Ramsden et al., 2014; Wilcox, 2013). Likewise, Berry et al. (2009; 2015) presented team formulation as a service-level intervention to help staff develop skills, confidence, and effective relationships with service users.

Table 5.
Categories of definitions of team formulation

	Terms for Team Formulation				Transtheoretical Aspects of Formulation[a]			
	Shared understanding	Informal sharing of ideas	Consultancy	Reflective Practice	Summary and explanation of SU problems	Explanation of development of problems	Use of psychological theory /principles	Intervention plans
Quantitative Studies								
Berry et al. (2009)	√		√		√	√	√	√
Berry et al. (2015)	√		√		√	√	√	√
Ingham (2011)	√		√		√	√	√	√
Ramsden et al. (2014)	√		√		√	√	√	√
Qualitative and Descriptive Studies								
Christofides et al. (2012)		√			√		√	
Davenport (2002)	√			√	√	√	√	√
Murphy et al. (2013)	√		√	√	√	√	√	√
Summers (2006)	√			√	√	√	√	√
Wilcox (2013)	√		√	√	√	√	√	√

Note. [a]As identified by the Division of Clinical Psychology (2011)

Team formulation as 'reflective practice' was reported within qualitative and descriptive articles. Exploring individual's interactions with service users generated formulatory ideas in two studies (Davenport, 2002; Summers, 2006). Two additional articles reported using reflective practice in the context of consultancy (Murphy et al., 2013; Wilcox, 2013). A subtle difference was that team-level difficulties (e.g. 'splitting') when working with service users were the focus of reflections.

Transtheoretical aspects of team formulation.

General definitions of formulation were often provided in place of team-specific explanations. As shown in Table 5, descriptions included four elements indicated by the DCP (2011) as central to formulation. None of the articles considered reformulation. Summarising the service user's presenting problems was present in the description of team formulation in nine studies. For example, Berry et al. (2015) elicited staff's observations of the service user's indicators of distress and ways of coping. The service user's life events were reviewed through discussion (Berry et al, 2009; 2015; Davenport, 2002; Murphy et al., 2013; Summers, 2002; Wilcox, 2013) and through hypothesising about the predisposing factors to the presenting problem (Ingham, 2011; Ramsden et al., 2014).

Psychological theory was used in two ways: to explore material arising from the team formulation session through psychodynamic (Christofides et al., 2012; Davenport, 2002; Summers, 2006) or systemic approaches (Ingham, 2011; Wilcox, 2013) and; to produce a diagrammatic/written formulation, typically using cognitive-behavioural models (Berry et al., 2009; 2015, Murphy et al., 2013; Ramsden et al., 2014).

Interventions were highlighted through agreed changes to care planning (Berry et al., 2015; Davenport, 2002; Murphy et al., 2013; Summers, 2002), risk management (Ramsden et al., 2014; Wilcox, 2013), and engagement strategies (Berry et al., 2009; Ingham, 2011). However, the quality of this definitional aspect was weakened in four studies (Berry et al., 2009; Ramsden et al., 2014; Summers, 2006; Wilcox, 2013) as it was unclear as to whether hypothetical agreements translated into actual changes.

2. How do Psychologists Implement Team Formulation?

Ten studies were included in the synthesis for the review's second question as outlined in Table 6. Whitton et al. (2016) did not detail how team formulation was implemented and so was not included. One study considered to be of a low quality

provided the least amount of detail of the implementation process (Summers, 2006). In contrast, studies of higher quality provided a rich account outlining the specific steps of the process (Berry et al., 2009; 2015; Ingham, 2011).

Mirroring their definition, Christofides et al. (2012) implemented team formulation as an ongoing, informal approach. The remaining studies used a meeting format either as a fixed component of usual care (Berry et al., 2009; 2015; Davenport, 2002; Murphy et al., 2013; Rowe & Nevin, 2013; Summers, 2006; Wilcox, 2013) or contingent to the emergent of difficulties (Ingham, 2011; Ramsden et al., 2014).

The purpose of team formulation was multifaceted. This was reported as a way to: increase psychological understanding (Christofides et al., 2012); change existing perceptions of service users (Berry et al., 2009; Ingham, 2011; Summers, 2006); improve the staff-service user relationship (Davenport, 2002, Berry et al., 2015) and; support staff to feel equipped to work directly with service users who were experienced as challenging (Ramsden et al., 2014; Murphy et al., 2013). The intended objective of team formulation was only assessed as an outcome by four studies (Berry et al., 2009; 2015; Ingham, 2011; Ramsden et al., 2014).

The level of responsibility and expertise adopted by the psychologist varied. For example, in one study psychologists were cautious of respecting other team member's experience and presented themselves as fellow team members (Christofides et al., 2012). In stark contrast, formal training on formulation and its function within the service user population was evident in two studies (Ingham, 2011; Murphy et al., 2013).

A high level of collaboration in team formulation was typical, with a partnership between the staff members and the psychologist described by six studies (Berry et al., 2009; 2015; Ingham, 2011; Daveport, 2002; Murphy et al., 2013; Wilcox, 2013). Two studies appraised as low quality reported a lesser degree of collaboration where the formulation was completed independent from the session (Ramsden et al., 2014; Summers, 2006).

Highly structured methods of implementation where systematic, procedural frameworks were followed were reported by quantitative studies (Berry et al., 2009; 2015; Ingham, 2011; Ramsden et al., 2014). Three studies (Davenport 2002; Murphy et al., 2013; Summers, 2006) used a semi-structured sequence to team formulation meetings. The degree to which h the authors adhered to these described processes was not reported.

Table 6.

Categories of implementation of team formulation

	Purpose	Format	Psychologist's Role	Level of Structure	Level of Collaboration
Quantitative Studies					
Berry et al. (2009)	Change staff appraisals of SU and enhance staff skills to work with SUs	Consultation: Weekly meetings open to all staff	Facilitator	High: Manualised	High: jointly developed
Berry et al. (2015)	Improve Staff-SU relationship as a way to improve care	Consultation: Weekly meetings open to all staff	Facilitator	High: Manualised	High: jointly developed
Ingham (2011)	Change staff appraisals of a SU and enhance staff skills to work with a challenging SU	Consultation: 2x 3-hour workshops for SU's core care team	Trainer and facilitator	High: Protocol Driven	High: jointly developed
Ramsden et al. (2014)	Enhance staff understanding and skills to work with challenging Sus	Consultation: Part of existing team meeting, when requested	Consultant	High; Protocol Driven	Moderate: Staff ideas may inform a written guidance report

Table 6.

Categories of implementation of team formulation

	Purpose	Format	Psychologist's Role	Level of Structure	Level of Collaboration
Christofides et al. (2012)	Facilitate staff to develop their own psychological understandings	Informal discussions integrated into routine practice	Peer/team member	Low: Unstructured	Various
Davenport (2002)	Increase staff understanding of staff-SU relationship	Reflective practice: Twice-weekly meetings, SU core care team	Facilitator	Moderate: Semi-structured	High: jointly developed
Murphy et al. (2013)	Increase staff understanding and skills to work with challenging Sus	Reflective practice/consultation; Weekly meetings open to all staff	Trainer and facilitator	Moderate: Semi-structured	High: jointly developed
Rowe & Nevin (2013)	Inform idiosyncratic interventions	Meeting as standard part of care pathway	Not reported	Not reported	Includes SU voice

Table 6.

Categories of implementation of team formulation

	Purpose	**Format**	**Psychologist's Role**	**Level of Structure**	**Level of Collaboration**
Summers (2006)	Increase staff understanding of SUs and inpatient care	Reflective practice: Twice-weekly meetings for SU core care team	Facilitator	Moderate: Semi-structured	Moderate: Staff ideas may inform written formulation
Wilcox (2013)	Provide a formal, reflective space	Reflective practice: Monthly meetings, open to all staff	Facilitator	Moderate: Semi-structured	High: jointly developed

Table 7.

Summary of quantitative and qualitative outcomes from team formulation articles

	Service Related			Staff-Related			Service User-Related		
	Team cohesion	Risk Management	Therapeutic Milieu	Satisfaction with Team Formulation	Understanding of SU Presentation	Attitude/ empathy towards SU	Influence on treatment/care	Staff-SU Relationship	Problem Severity
Quantitative Data									
Berry et al. (2009)					++	++			
Berry et al (2015)									
Staff ratings			NC			++		-	
SU ratings			++					++	-/+
Ingham (2011)									+
Ramsden et al. (2014)		+			++	++			
Whitton et al. (2016)				++					
Wilcox (2013)		NC			NC				
Qualitative Data									
Christofides et al. (2012)	+			+	+	+			
Murphy et al. (2013)	-/+			-/+	-/+	+	+	+	
Summers (2006)	+			-/+	+	-/+	-/+		

Note. SU=service user; ++ statistically significant positive finding; + positive finding; - negative finding; -/+ positive and negative findings reported within the study; NC= no observable change

3. What are the Outcomes from Team Formulation?

Six studies measured outcome data quantitatively and three studies presented qualitative outcome data. Content analysis revealed nine outcome domains which are detailed in Table 7.

3a) Quantitative outcomes.

Cohen's (1988) conventions were used to interpret effect sizes for three of the six studies (Berry et al., 2009; 2015; Whitton et al., 2016). Three studies did not provide the relevant numerical data and so effect size calculations were not possible (Ingham, 2011; Ramsden et al., 2014; Wilcox, 2013).

Staff-related outcomes.

There was a medium effect (d=-0.5) of time on the degree to which staff perceived team formulation as a useful practice (Whitton et al., 2016). The questionnaire used to measure this variable was developed and analysed by the author, meaning that data were of an unknown reliability or validity.

Studies which evaluated staff attitudes towards service users (Berry et al., 2009; 2015; Ramsden et al., 2014) also typically measured staff understanding of service user's presentations (Berry et al., 2009; Ramsden et al., 2014; Wilcox, 2013). There was some evidence for positive change in these domains, although the evidence was weakened by methodological issues.

Ramsden et al. (2014) highlight an increased willingness to work with service users and an increased understanding of service users and risk over time, measured by the Personality Disorder Knowledge and Skills Questionnaire (Shaw et al., 2011). Although, this finding emerged in a study with only 12 participants and an unexplained attrition rate.

There was a medium effect (d=0.65) of time on 30 staff member's increased tolerance and reduced blame towards service users via an author-developed questionnaire (Berry et al., 2009). As the pre- and post- measures were collected on the same day it was unclear if changes were sustained. Berry et al. (2015) found a large effect (d=-0.84) of time on reducing depersonalised and cynical attitudes towards service users (Maslach Burnout Inventory; Maslach, 1986). Average staff ratings of the utility of team formulation for enhancing understanding of the service user's problems and risk remained

stable in Wilcox (2013). Although, this author-developed measure was implemented unsystematically to a number of different staff members. Considering these issues, change in staff attitudes and perceptions as a direct outcome of team formulation should be viewed cautiously.

Service user-related outcomes.

There was no strong evidence of change for service users following team formulation. Staff perceived frequency and severity of one service user's 'challenging behaviour' decreased over time (Ingham, 2011). However, the relationship between the introduction of team formulation and the point of change in staff perception was not directly measured, limiting the internal validity of this finding. At follow-up, service users in Berry et al. (2015) reported slightly improved mental health (Positive and Negative Syndrome Scale; Kay, Flszbein, & Opler, 1987) but slightly worse functioning (Global Assessment of Functioning; Hall, 1994).

Staff-service user relationship.

Change on this domain differed according to whose perspective was measured. A large effect (d=-1.75) of time on reducing service user reports of feeling criticised by staff (Perceived Criticisms Scale; Hooley & Teasdale, 1989) was observed. Service user's Working Alliance Inventory (Tracey & Kokotovic, 1989) scores improved slightly post-team formulation, but the change did not reach statistical significance. Staff reported a slightly worse relationship on both measures post-team formulation (Berry et al., 2015).

Service-related outcomes.

A similar pattern emerged for service level outcomes. There was a large effect (d=0.80) of time on improving service user views of the therapeutic milieu (Ward Atmosphere Scale: Moos, 1974) but no effect on staff ratings (Berry et al., 2015). Factors independent of team formulation may have arisen within the intervention arm of this study, which included both NHS and private provider units. This indicates that there may have been organisational differences and thus, variations in care. As confounding variables were not accounted for, this methodological flaw must be held in mind when considering these outcomes.

3b) Qualitative Outcomes

Three studies employed qualitative analyses of interviews with professionals. Both Murphy et al. (2013) and Summers (2002) reported positive and negative team formulation themes. Christofides et al. (2012) recruited clinical psychologists who used team formulation and data were analysed by a researcher with a positive stance on the topic; reported themes were of a positive dimension only.

Qualitative studies offered mixed opinions regarding whether team formulation fostered consistency between team members. For example, under Murphy et al. (2013) theme of 'team efficiency', one participant reported: "a plan where we all give the right, the same answers. There was continuity all the time, before we didn't have continuity" (p. 445). However, staff in the same study indicated that when they could not attend the team formulation meeting, they were left feeling unsupported by colleagues, or felt that they had unfairly missed out.

Views on team formulation differed as to the type of professional being interviewed. Dissatisfaction with team formulation was reported by inpatient nursing staff due to: "some people wanting to be right or more powerful" (Summers, 2006, p. 342). In contrast, clinical psychologists believed that staff valued team formulation: "they are actually saying 'you do us a session on formulation'" (Christofides et al., 2012, p. 430).

Likewise, perceived changes in understanding service user presentations differed as to whether this was the perspective of the person facilitating or attending the formulation. Psychologists thought that team formulation offered: "more understanding about why a person is doing what they're doing rather than it's just their illness" (Christofides et al., 2012, p. 430). In contrast, one professional from a dementia service felt that particular information remained unexplained by the formulation: "when they're physically unwell…. It seems to ignore that completely' (Murphy et al., 2013, p. 444).

Increased empathy was evident within each qualitative studies' themes: "You saw 'em in a different light really. You saw them as being people rather than patients" (Murphy et al., 2013, p. 444). Although, a minority of individuals seemed to have unchanged views, perceiving that formulation provided an 'excuse' for service user's behaviour (Summers, 2006). However, it is unclear if such data were a result of direct team formulation experience as only a sub-sample of staff in Summers (2006) attended the team formulation.

Views as to whether team formulation led to changes in care provision were inconsistent. Instances of changes were reported in by Summers (2006) and Murphy et al. (2013), for example: “We had to manage him so we weren’t perceived as a threat to him. And that’s why we had these boundaries’ (Murphy et al., 2013, p. 444). Although, staff expressed concern that team formulations: “need to guide care plans more.’ (Summers, 2006, p. 342).

Further, team formulation was experienced by staff as a way to help limit ruptures in relationships with service users: “It stops me straying into sensitive areas, blundering in through lack of knowledge” (Murphy et al., 2013, p. 444).

Overall Comment

Collectively, studies conveyed a degree of positive change over time. Some staff report increased, psychological understanding and attitudes towards service users. A small number of service users perceived changes to the therapeutic relationship and ward atmosphere. Importantly, studies presented outcomes as directly linked to team formulation. This is concerning given that quality appraisal identified that this relationship was not established across studies, therefore limiting the extent to which outcomes can be said to be associated with team formulation. Considering these inconsistencies and limitations, positive outcomes appear to have been overemphasised in the team formulation literature.

Discussion

This review aimed to understand how team formulation is defined and implemented in practice. The outcomes which were reported to have arisen from team formulation were reviewed and synthesised. Overall, there was no uniform definition or singular implementation of team formulation reported across studies. Extending the findings of Cole et al. (2015), this review identified three instantiations of team formulation. A shared understanding was a common focus of practice, although each delineation had considerable differences, as shown in Figure 2.

Firstly, team formulation focussed consultation aimed to enhance the quality and effectiveness of services (Berry et al., 2009; 2015; Ingham, 2011; Ramsden et al., 2014). This highly collaborative approach explicitly applied psychological theory through protocol-driven implementation. Evaluation of this practice indicated increased, positive attitudes towards team formulation (Whitton et al., 2016) and service users (Berry et al., 2009; 2015; Ramsden et al., 2014). This finding is consistent with Mattan and Isherwood (2009) where non-psychology staff valued consultation for enhancing their understanding of service users who were experienced as complex. A novel finding within this type of team formulation was that service users, but not staff, perceived the environment as increasingly therapeutic over time (Berry et al., 2015). The authors suggest that staff may have become more aware of the difficulties in their relationships with service users thus providing lower ratings. However, staff views of the therapeutic relationship have been found to correlate with outcomes from inpatient care (Berry, Gregg, e Sa, Haddock, & Barrowclough, 2012) suggesting that this important outcome requires further investigation. This review observed that a reliance on self-reported methods, lack of measurement of non-team formulation factors, and small sample sizes, meant that the strength of the outcomes evidence for team formulation- focused consultation was weakened

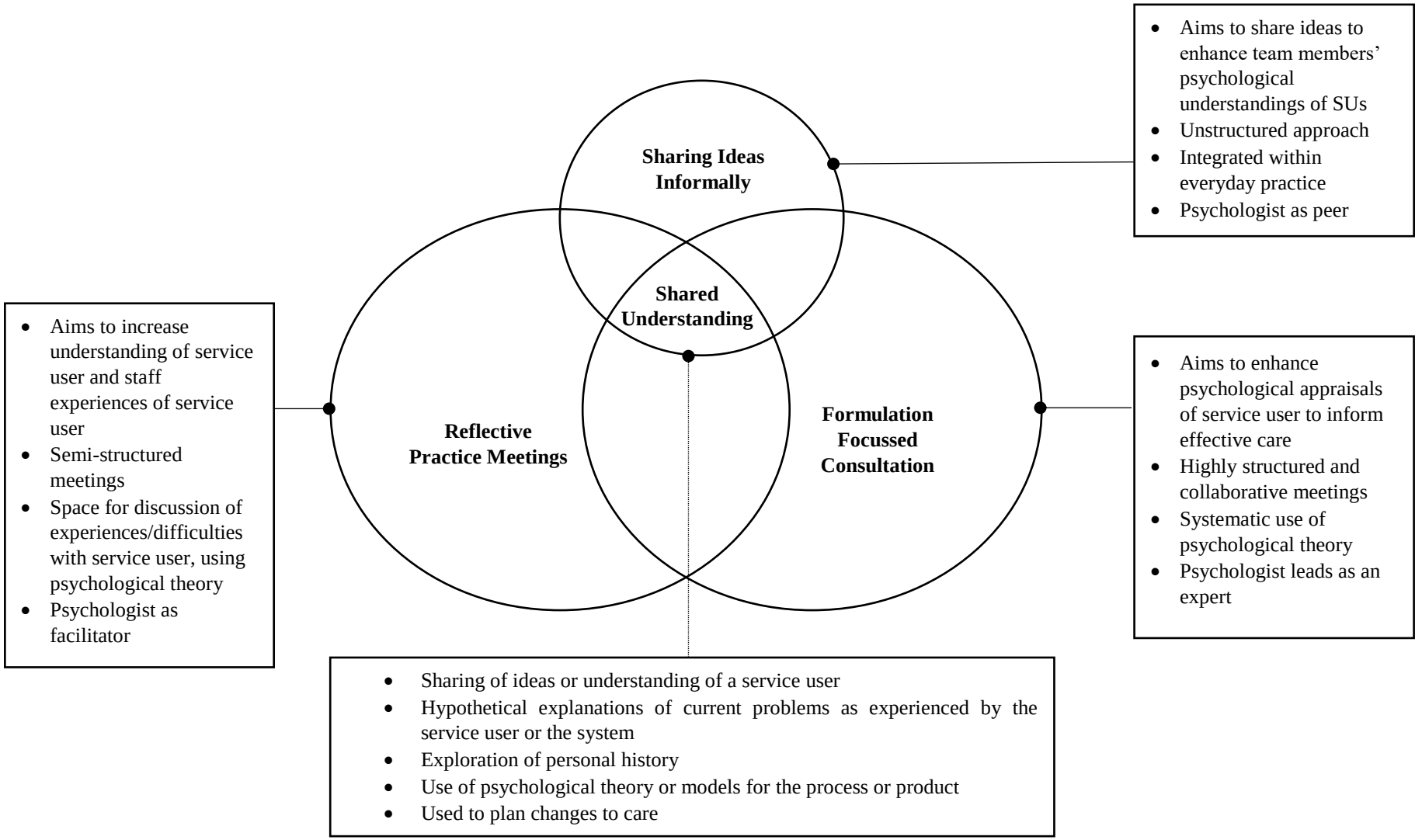

Figure 2. Venn diagram of team formulation descriptions from peer reviewed literature.

Secondly, team formulation as a semi-structured reflective practice meeting focused on the emotional impact of working with service users (Davenport, 2002; Murphy et al., 2012; Summers, 2002; Wilcox, 2013). 'Reflective practice' has been found to be a broad term, which clinical psychologists report as useful for enabling flexibility in their approach in order to respond to staff needs (Heneghan, Wright, & Watson, 2013). In contrast, staff groups report valuing consistency and structure (Collins, 2014) and the vagueness of this term has been found to give rise to challenges in engaging teams in this process (Heneghan et al., 2013). Whilst this review found that some staff experienced an emotional or cognitive change following reflective practice (Summers, 2002; Murphy et al., 2013) others viewed this experience as dissatisfactory or incomplete. Clearly, more research is needed to examine which particular components of reflective practice are effective for teams.

Thirdly, Christofides et al. (2012) described that informal team formulation was implemented flexibly through an array of interactions with team members. This instantiation indicates that individuals merged their professional (clinical psychology) identity with their role as a team member in order to practice team formulation. Informal team formulation was significantly broader in scope than other forms and clinical psychologists struggled to define this unstructured approach. The absence of evaluative evidence means that outcomes of informal team formulation for non-psychologists are unknown.

Taken together, the results of this review support the idea that team formulation is currently an unfocused, 'catch-all' term. Including a variety of practices under the umbrella term of 'team formulation' may be a way to evidence a range of activities which: (1) reach a number of people in a short space of time and (2) are reported to be unique to clinical psychology (DCP, 2011). Indeed, clinical psychologists have reported feeling compelled to demonstrate the value of the profession as a way to justify their position within teams (Murphy, Vedger, Sandford, & Onyett, 2013). There may be particular pressure to do so in the current NHS context, where there is pressure to 'do more' with less resource and a drive to evidence the effectiveness of contributions through outcomes (Alderwick, Robertson, Appleby, Dunn, & Maguire, 2015).

State of the Outcomes Evidence

Noting that outcomes research in this area is still in its infancy, some positive findings in the literature were observed, although, were not well evidenced. An important discovery was that the lack of robust study designs meant that outcomes could not be directly linked to team formulation. Further, a novel finding was that a number of negative outcomes were also reported. As such, there appears to be incongruence between the degree to which team formulation is seen as fundamental at a professional (DCP, 2011) and regulatory (HCPC, 2015) level and the absence of consistent, positive outcomes evidencing the effectiveness of team formulation within services. Therefore, the rationale for using team formulation requires further consideration and there is a need for the DCP (2011) guidance to be revised in the context of this review's findings.

Clinical and Research Implications

A priority for future research should be to adopt study designs that allow for systematic measurement of the mediating and moderating factors of team formulation outcomes. This may inform the development of standardised definitions and models of team formulation to facilitate appropriate and sound evaluation of practice. Dismantling studies may help to investigate if any components of team formulation are effective mechanisms of change. In turn, this may inform the development of updated clinical practice guidelines specific to team formulation.

In light of the number of author-developed questionnaires used to capture staff views of team formulation, future research should seek to measure effectiveness using methods other than staff self-report. Indeed, independent ratings were considered more accurate than self-report methods of assessing psychological mindedness and formulation skills amongst non-psychologists (Hartley et al., 2016). The development of standardised, valid and reliable tools to measure the effectiveness of team formulation would improve evaluations of this practice.

Given that there is a significant amount of investment at a professional level, but variation in team formulation practice, providing training to clinical psychologists may be one way to address this gap. Clinical psychologists should carefully consult research specific to their work areas, and its limitations, before embedding team formulation. As this review indicated that outcomes can differ according to whose views are represented,

pilot work should be evaluated by taking multiple stakeholder perspectives (e.g. non-psychology staff members, service users, and carers) into account.

Limitations

Considering the AMSTAR checklist (Shea et al., 2007), a number of quality issues with this review arise. Firstly, the review process was undertaken by one person only. The lack of dual and independent screening, quality appraisal, and data extraction increased the potential for bias throughout. In addition, Grey literature were excluded which limits the scope of this review and increases the risk of publication bias. Despite an extensive search of electronic databases, some articles may have been missed. Given that all studies were published in mental health or forensic services in the United Kingdom and related to clinical psychology practice only, this heterogeneity means that findings are not generalisable beyond this context.

Notwithstanding these limitations, this review employed a content analysis to add further understanding to the empirical, team formulation literature and has outlined how this synthesis can inform future research and clinical practice.

Conclusion

There is weak evidence to support the claimed beneficial outcomes of team formulation in practice. There is a need for greater specification and standardization of 'team formulation' practices (i.e., in terms of how this practice is defined and implemented) to enable meaningful evaluation and thereby inform best practice in services. Based on our review of existing operationalisations, we can offer a working definition of the intended function of team formulation: to enable team members to develop a shared psychological understanding of presenting difficulties; which summarizes their nature, explains their development and maintenance, and guides intervention planning. Moreover, we have identified that the practiced form of team formulation can vary substantially along dimensions of structure and hierarchy (e.g., from unstructured peer discussions to highly structured, psychologist-led consultation). Further research using robust study designs is needed to allow for the systematic investigation of any relationships between team formulation and outcomes–and their sensitivity to differential forms of team formulation practice.

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*Denotes articles included in the review

JOURNAL PAPER[6]

[6] This journal paper has been prepared for submission to the Journal of Clinical Psychology. See Appendix E for author guidelines. This journal article is within the required academic submission requirement of less than 8,000 words, excluding tables, figures and references.

Abstract

Objectives: Despite the popularity of team formulation, there is a lack of knowledge about workable implementation in practice. This study aimed to describe: (1) the characterisation of team formulation based upon examples from practice; (2) evaluation of team formulation: and (3) the perceived factors that support and obstruct workable implementation in practice.

Method: An online survey recruited UK Clinical Psychologists (N=49) with experience in team formulation from a range of work contexts. Examples of team formulation in practice were analysed using both deductive and inductive Framework Analysis.

Results: Four novel types of team formulation with different functions and forms are described. Two-thirds of the sample (n=33, 67%) reported evaluating team formulation, although, issues of specificity, sensitivity and validity were noted for reported measures/methods. A number of factors perceived to support and obstruct team formulation were identified and were common across team formulation types.

Conclusion: There appears to be specific team formulation functions and forms, however, common factors appear to facilitate workable implementation in practice. Future research should investigate the key processes and links to outcomes of team formulation in practice.

Introduction

Team formulation is an increasingly popular practice within Clinical Psychology (Division of Clinical Psychology [DCP], 2011; 2015), reflecting the current prominence of Clinical Psychologists working psychologically within teams (Johnstone, 2014).[7] The broad function of team formulation is to "enable team members to develop a shared psychological understanding of presenting difficulties; which summarises their nature, explains their development and maintenance, and guides intervention planning" (Geach, Moghaddam, & De Boos, 2017, p. 27).

Both professional (DCP, 2011) and regulatory bodies (Health and Care Professions Council [HCPC], 2015) promote team formulation as a fundamental practice.[8] However, the extant literature is limited to a small body of peer-reviewed research[9]. A review of this literature found unstandardised definitions and implementation of team formulation in practice (Geach et al., 2017). The absence of a consistent understanding and practice of team formulation complicates identification of key processes that enable workable team formulation practice. Subsequently, links between the process and outcomes of team formulation as a singular practice are difficult to identify. There is a need to further understand: (a) the form, features and functions of team formulation; (b) workable evaluation approaches; and (c) the factors that may help or hinder team formulation in practice.

Characterising Team Formulation in Practice

There is a dearth of understanding of team formulation at a basic, descriptive level. The peer-reviewed literature conveys inconsistency amongst how team formulation is implemented (Geach et al., 2017) and a range of practices with varying purposes have been described:

1. Structured psychological consultation aimed at improving service effectiveness (Berry et al., 2015; Berry, Barrowclough, & Wearden, 2009; Ingham, 2011; Ramsden, Lowton, & Joyes, 2014)

[7] See extended paper sections 1.1 to 1.4 for fuller discussion of formulation and team formulation
[8] See extended paper section 1.5 for further discussion on team formulation in the context of Clinical Psychology practice
[9] See extended paper section 1.6 to 1.8 for further discussion and critique of the extant team formulation literature

2. Semi-structured reflective practice meetings focused on the emotional impact of working with service users (Davenport, 2002; Murphy, Osborne, & Smith, 2013; Wilcox, 2013)

3. Informal sharing of ideas to encourage team members' understanding of service users (Christofides, Johnstone, & Musa, 2012)

Given the increase in popularity of team formulation (DCP, 2015), it is plausible that there are further instantiations which are not conveyed by the extant literature.

Evaluating Team Formulation in Practice

Difficulties identifying and characterising a specific team formulation purpose significantly limits the ability to evaluate whether and how the intended purpose has been achieved. Despite this, the DCP (2011) claim team formulation is beneficial in seventeen ways; these benefits are suggested to occur across: (1) individuals (e.g., increased peer support); (2) teams (e.g., increased cohesiveness); (3) services (e.g., improved risk management) and; (4) organisations (systemic culture change). However, many of these claims are based upon opinion papers (Summers, 2006) and grey literature (Craven-Staines, Dexter-Smith, & Li, 2010; Kennedy, Smalley, & Harris, 2002; Lake, 2008; Wainright & Bergin, 2010). A recent systematic review of empirical team formulation evidence conveyed methodological issues including a lack of robust evaluation methods (Geach et al., 2017). As such, evidence documenting the effectiveness of team formulation in practice is limited (Cole, Wood, & Spendelow, 2015) and the purported benefits appear to have been over-emphasised.

Isolating and measuring the effects of team formulation on outcome would arguably be difficult to investigate in an empirically sound and valid way due to the multiplicity of factors involved. However, the paucity of robust data conveying the effectiveness of team formulation may limit support for implementing this practice across services. This is particularly important to consider given the significant time and resource required to undertake team formulation (Johnstone, 2014).

The extant literature is predominantly limited to single service evaluations from the perspective of team formulation attendees (Beardmore & Elford 2016; Berry et al., 2009; Harrison, Sellers, & Blakeman, 2018; Ingham, 2011; Ramsden et al., 2014; Whitton et al., 2016; Whitton, Small, Lyon, Barker, & Akiboh, 2016). Whilst there are

some accounts from Clinical Psychologists (Christofides et al., 2012; Wilcox, 2013) these are limited in scope. Wilcox (2013) describes the factors perceived to facilitate team formulation attendance but did not apply a formal research method. Christofides et al. (2012) used an inductive Thematic Analysis of interviews with Clinical Psychologists who reported their team formulation practices were vague and difficult to define, concluding further research into facilitation was needed. Taken together, accounts from the Clinical Psychologist perspective are relatively unstructured and inductive descriptions, yet Clinical Psychologists have an important stake in facilitating and promoting this practice which is endorsed as a professional competence (DCP, 2011; 2015; Skinner & Toogood, 2010).

In addition, lack of feasible evaluation approaches limits the degree to which team formulation can be considered an evidence-based practice (EBP)[10]. This impedes the refinement, standardisation, and assessment of the quality/impact of this practice. Therefore, further understanding of indicators or methods used to evidence (potential) change for service users, staff and services would be advantageous.

Factors that Support or Obstruct Team Formulation in Practice

In addition to the paucity of evidence of the effects of team formulation, there is a notable lack of consideration of putative mechanisms of effect (Ingham, 2015). Identification of key processes may be obfuscated by unstandardised team formulation implementation and evaluation.

This issue appears discordant with claims that team formulation effects change across multiple levels (DCP, 2015). Important targets for change have been theorised as the staff-service user relationship (Berry et al., 2015) and staff attributions about presenting problems (Ingham, 2011).[11] Beyond this, there is little articulation in the extant literature of how desired effects could come about. Without a clear understanding of the important conditions or processes, it is difficult to evaluate the extent to which team formulation, versus other factors, may contribute to observable changes. An understanding of potential moderator variables (when team formulation may be most beneficial) and potential mediator variables (how/why team formulation can be most

[10] See extended paper section 1.9 for discussion of evidence-based practice
[11] See extended paper section 1.10 for discussion of two theorised change mechanisms

beneficial) would be advantageous to help harness factors that contribute to workable practice.

Rationale

Taking these issues together, there is a lack of knowledge about the characterisation (Christofides et al., 2012), evaluation (Wainwright & Bergin, 2010) and factors (Ingham, 2015) which may facilitate and obstruct workable implementation of team formulation. Describing practice-based instances where Clinical Psychologists have experienced workable implementation will allow for identification of the key characteristics of this practice as well as an understanding of the factors that might help/hinder implementation[12]. An inductive and deductive approach would be advantageous to draw upon the increasing research (Cole et al., 2015; Geach et al., 2017) alongside Clinical Psychologist accounts from practice to create a higher-order, theoretical understanding of how team formulation can work best in practice.

Study Aims[13]

In the context of Clinical Psychology practice in the UK, this study aims to:

1. Characterise the perceived forms, functions, and outcomes of team formulation
2. Understand whether/how team formulation is evaluated
3. Identify factors that may support/obstruct perceived 'best practices' in team formulation – based on practice-based examples of successful and unsuccessful implementation

[12] See extended paper section 1.11 for rationale for using Clinical Psychologist accounts
[13] See extended paper section 1.12 for definition and scope of terms used in this study's aims

Method

Ethical Approval[14]

Ethical approval for this study was granted by the University of Lincoln School of Psychology Research Ethics Committee.[15]

Participants

Purposive sampling of Clinical Psychologists was used on a voluntary basis.[16] Individuals were required to have internet access and consent to take part. Participants were included if they self-identified meeting two criteria:

- A qualified Clinical Psychologist working in the UK
- Experience of involvement in team formulation in practice

Potential participants from any employment sector, service, and setting were included. Other practitioner psychologists were excluded due to the differences in training and standards of proficiency related to formulation as outlined by the HCPC (2015). Participants were recruited via professional networks, social media, and snowballing (where potential participants invited other potential participants to complete the survey).[17] Participants were asked to report the length of team formulation experience as part of the survey.

Procedure[18]

We conducted an online survey from 12 December 2017 to 28 January 2018, distributed using mechanised survey tool Qualtrics[19]. An invitation email was disseminated via professional member networks and social media. Interested participants followed the survey link to view the opening page with a link to the participant information sheet. On this page, participants either accepted the consent form and continued or exited the survey.

[14] See extended paper section 2.1 for more ethical and governance considerations
[15] See appendix F for ethical approval
[16] See extended paper section 2.6 for sample size calculation information
[17] See appendix J for recruitment networks
[18] See extended paper section 2.8 for discussion of the quality of this research
[19] See extended paper section 2.3 for rationale and critique of survey method

Survey Design[20,21]

Demographic information including age bracket, gender, number of years qualified, and team formulation experience was collected using predetermined response categories to allow for a description of the overall sample. The type of service and setting the participant practiced team formulation within was also collected.[22]

To meet this study's first aim, participants provided an example of team formulation they judged to be successful and were given the option to volunteer a perceived unsuccessful example also. Open questions were used to obtain data on the form ("please describe the process by which this team formulation was created" and "how (if at all) was this team formulation implemented in practice?") and function of team formulation examples ("what was the purpose of this team formulation?"). Participants were asked to report outcomes at three different levels: for the service user, staff team, and service. Open questions about the perceived supporting and obstructing factors (e.g., "In what ways did this example (not) work well?") were used to answer the study's third aim. In addition, participants were asked to report how they might have overcome any challenges that had arisen within the perceived successful example. To answer the study's second aim, participants were asked to describe how team formulation in practice was evaluated and specified information sources used.

Analysis

Responses to free text questions were analysed using Framework Analysis (Ritchie & Spencer, 1994).[23] Both deductive (*a priori* concepts derived from team formulation research) and inductive (participant accounts) processes were used to generate frameworks to organise and analyse data. This approach was chosen for its systematic, transparent analysis process (Ritchie, Lewis, Nichols, & Ormaston, 2003). Further, Framework Analysis allows for both between- and within-case comparisons to facilitate identification of common and unique factors, congruent with this study's aims. The five steps of Framework Analysis (Ritchie & Spencer, 1994) were used to manage, describe and explain data and were used to answer each aim as described in Table 8:

[20] See extended paper section 2.2 for epistemological position
[21] See extended paper section 2.4 for survey development
[22] See extended paper section 2.5 for a fuller description of the survey
[23] See extended paper section 2.7 for description and rationale for using Framework Analysis

1. Familiarisation: Immersion in the raw data by reading and re-reading responses
2. Initial framework: Identifying key concepts (both *a priori* and emerging from responses) to examine data
3. Indexing: Systematic application of the framework to the data
4. Charting: Abstracting and synthesising data to create thematic frameworks
5. Mapping and Interpreting: Presenting the range and nature of data. Creating types, analysing patterns, commonalities and connections to answer research questions.

Table 8.

Framework Analysis steps (Ritchie & Spencer, 1994) applied to current research aims

	Familiarising	**Initial Framework**	**Indexing**	**Charting**	**Interpreting**
Aim 1. Team formulation types	Team formulation examples read for identification of broad commonalities	Key concepts developed from responses and *a priori* categories (function, key features, perceived outcomes)	Based on detailed coding, examples were categorised into typologies based on common functions	Examples within each typology were further coded to populate the framework (across case comparisons)	Framework of typology: Common and unique features identified
Aim 2. Team formulation evaluation	Responses organised according to presence or absence of evaluation	*A priori* framework used to categorise indicators into service-user, team and service level	Based on detailed coding, evaluation approaches were further categorised by indicator type	Responses were used to populate the evaluation framework	Framework of evaluation approaches presented by level
Aim 3. Obstructing and supporting factors	Responses organised into supporting and obstructing factors	Responses further categorised into moderators and mediators	Based on detailed coding, factors were categorised into themes	Examples within each factor synthesised and analysed to populate framework	Framework of supporting and obstructing factors.

Results

Characteristics of the Sample

A total of 120 people accessed the survey. Of these, four were test responses which were not included (3%), 16 (13%) clicked on the opening page only, 34 (28%) partially completed the survey, and 66 (55%) completed the survey. Of the 66 completers, 49 (41%) participants provided full, detailed examples of team formulation practice; these 49 participants form the focal sample for this paper.[24] Thirty-two of these participants also provided a perceived unsuccessful example.

The sample (N=49) was predominantly female (n=38, 78%) which is comparative to HCPC Clinical Psychology registrants (82% female). Further descriptive information about the sample is shown in Table 9 and Table 10.

[24] See extended paper section 3.1 for a comparison between partial and full completers

Table 9.

Characteristics of the focal sample[1]

	Successful Example (N=49)		Unsuccessful Example (n=32)[2]	
	Count	**%**	**Count**	**%**
Female	38	77.6	24	75.0
Age (Years)				
24-30	05	10.2	03	9.4
31-40	23	46.9	18	56.3
41-50	14	28.6	07	21.9
51-60	05	10.2	02	6.3
61-70	02	4.1	02	6.3
Team Formulation Experience (Years)				
3 to <6 months	01	2.0	00	0.0
6 to <12 months	03	6.1	02	6.3
1 to <2	06	12.2	04	12.5
2 to <3	07	14.3	05	15.6
3 to <5	12	24.5	09	28.1
5 to <10	11	22.4	08	25.0
10 to <15	04	8.2	02	6.3
15 to <20	03	6.1	01	3.1
<20	02	4.1	01	3.1
Training in Team Formulation				
Yes	20	40.8	15	46.9
Unsure	05	10.2	02	6.3
No	24	49.0	15	46.9
Years qualified as a Clinical Psychologist				
0 to <5	18	36.7	13	40.6
5 to <10	9	18.4	6	18.8
10 to <20	15	30.6	10	31.3
20 to <30	4	8.2	1	3.1
30 to <40	3	6.1	2	6.3

Note. [1]Table represents data for the focal sample (N = participants who fully completed the survey, including provision of a detailed exemplar from practice). [2]n = subgroup of the focal sample.

Table 10.
Work context of the focal sample

	Successful Example (N=49)[1]		Unsuccessful Example (n=32)[2]	
Population	**Count**	**%**	**Count**	**%**
Adult mental health	14	28.6	11	34.4
Intellectual/developmental disability	10	20.4	06	18.8
Older adults	09	18.4	07	21.9
Children and adolescents	06	12.2	04	12.5
Forensic/offender health	06	12.2	01	3.1
Physical health psychology	02	4.1	01	3.1
Neuropsychology	02	4.1	02	6.3
Total	49	100	32	100
Setting				
Community	20	35.7	13	34.2
Outpatient/clinic	02	3.6	00	0.0
Outreach/liaison	03	5.4	02	5.3
Inpatient	24	42.9	20	52.6
Inpatient secure forensic	05	8.9	01	2.6
Other[3]	02	3.6	02	5.3
Total[4]	56	100	38	100
Sector				
NHS	44	89.8	28	87.5
Independent provider	02	4.1	01	3.1
Other[5]	03	6.1	04	6.3
Total	49	100	32	100

Note. [1]Table represents data for the focal sample (N = participants who fully completed the survey, including the provision of a detailed exemplar from practice) [2] n = subgroup of the focal sample. [3]Other: Children Looked After Social Care Team, Offender Health. [4]Participants could select more than one option. [5]Other: NHS and independent provider, NHS and Charity, Social Care Team.

Aim 1: Forms, perceived functions, and outcomes of team formulation[25]

Data regarding the function and form of 49 examples of perceived successful implementation of team formulation were analysed. In six cases, responses did not include sufficient data to enable categorisation (accounts were too vague or brief for meaningful analysis and categorisation). Following Framework Analysis of 43 examples, seven team formulation types were identified. Four types are discussed below and summarised in Tables 11 and 12:

- Case review (five examples)
- Formulating behaviour experienced as challenging (eleven examples)
- Formulating the staff-service user relationship (eleven examples)
- Formulating with the service user perspective (six examples)

In addition, three further types were identified:

- Consultation approach (five examples)
- Staff emotional support (two examples)
- Solution-focused reflective approach (three examples)

Consultation and reflective practice-based approaches were identified within the *a priori* framework from Geach et al., (2017). The solution-focused model of team reflection is a structured template which is cited in the literature as a known approach for team working (Norman, 2003) and team supervision (O'Connell, 2012; Sharry, 2007). When explored further, these three types did not reveal novel understanding beyond that articulated in existing literature. Therefore, prominence was given to unique team formulation types that emerged outside of the *a priori* framework.[26]

Team formulation types are presented as provisional categories based upon self-reported descriptions of practice and are based primarily on function (with description of forms serving each function). It is recognised that different forms may serve a single function (and vice-versa; i.e., forms and functions may vary independently). Reported outcomes are discussed for each team formulation type. Such reports are inevitably limited by the aforementioned difficulties within our understanding of team formulation

[25] See extended paper section 3.2 for analysis of general team formulation questions and three additional team formulation types

[26] See extended paper section 3.2.2, Table 22 for participant breakdown for each team formulation type

(e.g., paucity of understanding of process-outcome links and lack of agreement on desired outcomes). Participants are referenced by their participant number (e.g., P1).

Case review.

The case review category included five examples from a range of contexts such as inpatient forensic services (P60, P66), inpatient child and adolescent mental health (CAMHS; P31) and community services (P2, P30). Participant experience in team formulation varied widely, from 6 to 12 months (P66) to more than 20 years (P60).

The case review function, whether in the context of long-term or complex care, predominantly involved using team knowledge to understand current problems and to improve the team approach to future care. One notable exception aimed to review care to reach a diagnostic conclusion (P60). This exceptional example uniquely functioned to examine the relationships between formulation and diagnostic concepts to revise an existing formulation; it also drew more heavily on developmental information and the input of family members, likely reflecting best practice guidelines for assessing the queried diagnosis.

Clinical Psychologists varied in relation to the facilitation approach and the degree of structure used. Examples included both leadership from the Clinical Psychologist (P60), indirect use of psychological frameworks to guide discussions (P2) and 'minimal' facilitation (P66). In each example, multi-disciplinary team (MDT) members' perspectives on the problem and key worker involvement appeared central to how the formulation was created and implemented. Three other common features emerged as consistent with the identified function of involving the wider team to drive actionable outcomes for care: (a) reviewing the service user's history/progress (P2, P60, P66); (b) disseminating the formulation amongst the team (P2, P31, P60, P66) and; (c) linking the formulation session with other MDT forums such as ward round (P31, P66) and team meetings (P2).

Participants applied practical and structured formulation-frameworks, such as The Five Ps (P31, P60, P66; Padesky & Mooney, 1990), and the 'Roseberry Park' (Dexter-Smith, 2007) adapted cognitive behaviour therapy (CBT) model (P2). Exceptionally, one participant, as reported above, described approaching the session from a diagnostic perspective (i.e. how characteristics of the diagnosis, such as

communication problems, might add to distress). All participants perceived that the formulation gave rise to an action plan (e.g., updating a care plan, altering risk assessments, incident management, providing psychoeducation to the service user). Agreeing tangible and concrete actions could be considered a route to achieving the intended aim of improving care.

Moving to the perceived outcomes of the case review approach, four participants cited changes to the service user's care plan as an indicator of success (e.g., ceasing antipsychotic medication [P30], introducing escorted leave [P66], devising a "person-centred" care plan [P31], and changing support provider [P2]). Three participants thought the service user felt validated (P30), listened to (P60) and empowered (P31). Other perceived outcomes were an increased staff understanding of the service user (P2, 60, 66), improved communication and functioning amongst the team (P2, P31, P60, P66), and improved team engagement with psychological intervention (e.g., acceptance of non-medical approaches [P30] and requests for psychological consultation [P66]).

Taken together, the case review enables a pragmatic and collaborative formulation when there is a need for a clearer MDT approach. The practical focus was perceived to relate to changes to care. Linking team formulation with other review methods and dissemination of the formulation might have enhanced team engagement with psychology. The significant MDT input was a key feature which may account for perceived improved team functioning.

Formulating behaviour experienced as challenging.

Eleven participant accounts categorised as formulating behaviour experienced as challenging were from neuropsychology, intellectual/developmental disability (IDD) and older adult settings where links between cognitive functioning and behaviour might be considered. Around half of the participants had been qualified as a Clinical Psychologist for more than 11 years and ten participants reported practicing team formulation for more than three years.

This team formulation type provided an idiosyncratic understanding of behaviour, particularly risk issues. 'Making sense' of the presenting problem and understanding 'the meaning' or 'function' of behaviour was considered alongside person-specific factors such as 'cognitive abilities,' 'developmental context,' 'unmet needs,' and 'extreme distress'. Further, five participants (P49, P64, P45, P52, P13)

reported a secondary function to implement change in practice (e.g., altering support plans).

Information from the staff perspective provided the basis for the formulation (e.g., MDT assessment findings [P64, P48, P49], incident records [P45, P61], case file review [P13], and observations [P43, P10, P33]). Facilitation was illustrated as guiding the team to alternative understandings using CBT-based approaches (P61, P10, P49, P32, P52, P13, P49), functional analysis (P65, P38), and the Five Ps model (P43, P45). Clinical Psychologists reported both implicit and explicit strategies to change staff perceptions of the service user:

- Humanising the person by *"Characterising the behaviour as a way to cope,"* (P43), highlighting the *"unmet need"* (P34, P49), or *"thinking about how [the] patient would describe own perceived problems"* (P52)
- Locating behaviour in developmental context, e.g., how a service user's early experiences may lead to *"misinterpretation of staff intentions"* (P10)
- Educating others on the link between cognitive difficulties and behaviour (P61)
- Challenging attributions (P45) e.g., *"opportunity for staff to formulate the impact of their opinions on their wider interactions with the person"* (P48)

In contrast, one team formulation in an inpatient older adult setting (P49), uniquely saw the family as the agents of change. It is unclear whether team formulation with family members may be a type in its own right, or whether team formulation can serve the same function whether practiced with professionals or family.

Five participants reported altered staff perceptions (P13, P45, P48, P61, P64) e.g., more empathic, feeling less personally targeted, and reduced negative appraisals of the service user. Seven participants described different responses to problem behaviour (P10, P33, P43, P48, P52, P61, P64) e.g., *"opportunities for developing healthy relationships"* (P48). Staff introduced new practices and were observed as relaxed, compassionate, and confident in their approach. Linked to this, service users were described as less distressed (P10, P13, P61, P49).

Other commonly reported outcomes were increased staff understanding (P10, P34, P43, P45, P48, P52, P61) and amended care/support plans (P13, P34, P43, P45, P48, P49, P61, P64). Five services were perceived to function more safely e.g., reduced

physical restraint, sedative medication (P45, P61, P34, P43), and *"injury to nursing staff"* (P49). There were some claims the service functioned more effectively due to better relationships amongst the team (P45, P52) and *"shorter admission time"* (P10). However, specific pathways between the examples described and these reported changes are unclear.

Formulating behaviour perceived as challenging appears to be a way for Clinical Psychologists to use psychological theory alongside staff observations to drive changes to staff attitude and engagement with service users, particularly where there were risk issues for both parties. This was uniquely linked to the inclusion of family members in one example.

Formulating the staff-service user relationship.

Eleven participants aimed to improve the therapeutic relationship between the team and service user, including building or ending the relationship. Six examples were from adult mental health (AMH) settings. Participant experience of team formulation ranged from 1-15 years.

The role of Clinical Psychology appears enhanced compared to other team formulation types, suggesting relational problems may be difficult for teams to define, communicate, and make sense of. Facilitation responsibilities extended outside of formulation sessions. Clinical Psychologists prepared information prior to the session (P46, P47, P59) and afterwards devised a letter to the service user (P4), amended care plans (P46), created formulation reports (P47), and updated electronic systems (P59).

Participants used interpersonal models including cognitive analytic therapy (CAT; P24, P4, P38 P36), attachment theory (P7, P59, P47), and systemic theory (P28) where visual diagrams and theoretical concepts aided explanation of relational patterns. Reviewing the service user's personal history to contextualise interactions with the team/service was identified in eight accounts (P4, P7, P46, P23, P36, P59, P38, P24). Eight participants focused on relational patterns as maintaining problems (P4, P46, P28, P36, P47, P17, P38, P24). Further, seven participants elicited the emotion thought to influence staff's relational responses (P4, P7, P36, P47, P17, P38, P24). These features appeared to encourage a therapeutic relationship with the service user. Unlike the two previous types, this team formulation was linked to individual psychological intervention (P4, P7, P24, P38, P36, 59).

Consistent with the function of this team formulation, six participants (P4, P7, P28, P36, P46, P59) believed the staff-service user relationship improved. In four reports (P4, P24, P28, 47), the service user was discharged from the service, although, one person added concern about how well this outcome could be linked back to team formulation:

"We cannot claim that the team formulation had a direct impact on how this was experienced by the client and whether discharge will be more successful or not" (P24).

Consistent with the key feature of this team formulation type, perceived improved communication (P46, P28, P23, P59, P38) and change to teams' emotional response towards service users (P4, P46, P28, P59, P17, P38, P24) were cited outcomes.

Formulating the staff-service user relationship, driven by relational theories, targets staff awareness of patterns and emotional connections within this relationship. The demands placed upon the Clinical Psychologist indicate the complexity of such formulations, which were perceived to make a difference to how staff related to service users and vice versa.

Formulating with the service user perspective.

This team formulation type was evidenced by six examples, four of which were from inpatient settings. There was mixed team formulation experience, as four participants had less than 5 years of experience and two had 10-15 years.

These six team formulations connected service user and professional views to overcome barriers to engagement. One example (P15) uniquely functioned to enhance communication amongst different services. In comparison to other types, a subtler facilitation approach was described to enable the central feature of this approach - the inclusion of service user views (P1, P14, P15, P25, P65, P31). Prior to the formulation, an adapted Five Ps framework (P15), goal setting discussions (P1, P14), and individual psychology sessions (P25, 35) were used to ascertain service user views. In one example, the service user gave feedback on the formulation after the session (P65).

Service user views were then linked to the professional's views to create a formulation and plan. Reviewing the service user's life history generated links with current engagement difficulties (P1, P14, P15, P25, P65). Three participants were guided by trauma-informed explanations to aid this process (P65, P15, P25). Most

participants (P1, P15, P25, P65, P31) considered the relationship between service users and the service at a broader level to explain issues such as repeat inpatient admissions. In line with this, targets for change were identified as prioritising treatment goals and changing the nature of the service user's relationship with the service.

Following the team formulation process, service users were described as more engaged with staff and involved in treatment decisions (P15, P31, P25, P14, P1). One notable example was a service user who was described to have shared their formulation with peers and other staff to enable preferred support during times of distress. Perceived staff outcomes were increased engagement with care provision (e.g., increased empathy [P15, 25] and desire to support the person [P65, P15]). It was claimed that care provision was meaningfully adapted to the person's needs and preferences (e.g., accommodating goals/barriers identified by the service user [P14, 15] and negotiating shared decision making [P31]).

Service-level changes were cited as using the example of team formulation to inform future sessions and care provision (P1, P31, P14), engaging in collaborative care planning (P35, P14), and using the formulation with other services to promote better inter-team working (P15, P31).

This type of team formulation incorporated the service user's voice to aid staff understanding. Interestingly, this appeared to enhance understanding of how the service user might engage with services in general. The perceived impact was improved service user and staff engagement with person-centred/collaborative care and sharing the formulation with other teams.

Table 11.
Team formulation typology

Function	Facilitation	Features	Target of Change	Reported Outcomes
Case Review (n=5). Review long-term/ complex care. Identify team approach to be used. *"Facilitate thinking about a client where issues felt stuck… share different perspectives and understandings of the client*" (P2 2I)	CP role and leadership approach varied. Collaborative with MDT *"A wide-ranging discussion with the whole MDT, led by clinical psychologist"* (P60 1FI) *"Minimal direction from facilitators… allowed suggestions for other ideas from members of the team"* (P66 1F)	• Inviting MDT perspectives (5) • Significant involvement of key workers (5) • Dissemination of formulation to the wider team (4) • Linking to other team forums (3) • Refreshing team knowledge of SU's history (3) *"Asking all team members their thoughts/ views on what was being said"* (P2 2I) *"Key worker to develop care plan with the young person"* (P31 1C) *"Past reports of offending, self-reports by client, family contributions, and professional reports were viewed and discussed"* (P60 1FI) "*The formulation… was disseminated in the next whole team MDT meeting"* (P2 2I)	Structured, straightforward models for MDT use: 'Five Ps' & adapted CBT Agreeing tangible actions focused on care e.g., alterations to care plans/ risk assessments *"Re-designed how the risk assessment and management plan was drawn up… for future support providers to utilise"* (P60 1FI) *"Allowed suggestions for other ideas from members of the team who would usually not be involved in writing care plans"* (P66 1F)	**SU:** Changes to care (4), perceived to feel listened to (3) **Staff:** Improved team communication/functioning (4), increased understanding of SU (3) **Service:** Increased engagement with psychological approaches (2) ***"****More person-centred care planning*" (P31 1C) ***"****The team had a shared understanding of the client so were able to communicate more effectively about her care"* (P2 2I) *"Greater acceptance not everyone with psychosis wants or needs antipsychotics"* (P30 2A)

Table 11.
Team formulation typology

Function	Facilitation	Features	Target of Change	Reported Outcomes
Formulating Behaviour Experienced as Challenging (n=11). Understanding (high risk) problems in the context of the person. *"To help staff make sense of the patient's behaviours… and come up with a consistent, more compassionate way of responding"* (P52 2I)	Guiding team towards alternative understandings via direct and indirect methods *"This was a directed team formulation necessary due to the dominant negative narrative and limited understanding of cognitive functioning"* (P48 2I) *"Team members were encouraged by the psychologist to challenge, question and suggest their thoughts"* (P45 2I)	• Formulation based on professional observations or assessment (9) • Changing staff perceptions of the person (8) • Planning alternative responses to the behaviour (7) *"Professionals sharing assessment information and developing hypotheses based on this information*" (P64 2I) *"Interventive opportunity for staff to formulate the impact of their opinions on their wider interactions with the person"* (P48 2I) "*We put together a document with strategies for personal care so only female staff approached her and they built up rapport and trust with her before attending to any tasks"* (P10 1O)	Adapted CBT and Functional Analysis Changing staff appraisals of (and responses to) the behaviour/person *"A plan of care … reducing the risk of injury to staff, reducing his extreme distress, enabling engagement, improving quality of life, developing a discharge plan"* (P49 1O)	**SU:** Presenting as less distressed (4), amended care plans (8) **Staff:** Altered perceptions (5) and responses (6), increased understanding of behaviour (7) **Service:** Improved relationships (4), perceived safety (3) and efficiency (2) *"The SU calmed down gradually as she found things more predictable"* (P61 1FI) *"Staff were supported to generate ideas for different ways of reacting to the behaviour"* (P48 2I) *"Improved service reputation from perspectives of family, commissioners and external teams"* (P33 1N)

Table 11.
Team formulation typology

Function	Facilitation	Features	Target of Change	Reported Outcomes
Formulating Staff-SU relationship (11) To improve the therapeutic relationship between the team and service use. *"Formulate actions that staff could take in interacting more effectively with the patient"* (P28 1A)	CP highly involved before, during and after the session *"I do some prep in advance via brief file review and focus on early history which has often been lost and not known to the team"* (P46 12A) *"Although I essentially developed the formulation I offered it as a hypothesis, open to amendment"* (P59 2A)	• Exploring personal history as context for SU's current presentation (8) • Formulating relational patterns as maintenance factor (8) • Understanding team's emotional responses to SU (7) • Linking to individual psychological therapy (6) *"The relationship of the client to the service was described then how she reacted to various approaches and how staff felt in response"* (P17 2A) *"Connected childhood life experiences with particular beliefs and expectations of relationships with others as an adult and the links to particular relationship behaviours"* (P59 1A)	Interpersonal models (CAT, systemic, attachment theory) to facilitate alternative approaches to engaging and responding to SU *"They felt less annoyed with him, and so were able to more supportively set boundaries for him*" (P36 3P) *"We used CAT mapping to identify the clinician's perspective of the ideal place, feared place and 'good enough place' where discharge could occur"* (P24 2C)	**SU:** Improved staff-SU relationship (6) **Staff:** Improved communication (5), altered emotional responses (7) **Service:** Discharged from the service (4) *"The SU began to seek support more appropriately and felt better supported. He also was more willing to engage in therapy"* (P36 3P) *"Increased empathy, optimism for the client and increased confidence in working with them"* (P46 12A) *"Patient was discharged quicker and didn't return back to the ward as community team were aware of her formulation"* (P28 1A)

Table 11.
Team formulation typology

Function	Facilitation	Features	Target of Change	Reported Outcomes
Formulating with SU perspective (n=6) To connect SU and staff perspectives to drive service-level changes. *"To explore the difficulties from the SU's perspective"* (P31 1O)	Subtle facilitation to enable collaboration between SU and team *"As facilitator I use curious questions to guide the process"* (P25 1AO)	• Including SU perspective (6) • Linking team and SU views in formulation and plan (6) • Reviewing personal history to understand impact on engagement (5) • Explaining SU relationships with services (5) *"… developed an easy to use 5P template that is given to each patient. This was completed and brought to the formulation meeting"* (P15 1O) *"Considered…the aversive nature of her relationships with services and the power dynamics which were creating a conflict relationship between services and SU"* (P35 1O)	'Five Ps' with trauma and attachment theory. Changing the nature of the relationship between SU and service *"Focus on eliciting impact of attachment and trauma experiences"* (P25 1AO)	**SU:** Increased SU engagement (5) **Staff:** Meaningfully tailored interventions (4), increased empathy (3) **Service:** Evidence of service-level good practice (3), collaborative care planning (2), enhanced inter-team working (2) *"Used in reflective practice or after incidents to help everyone (including the SU and their peers) understand what is happening"* (P1 1F) "*Taken to service level meetings as an example of good practice… used to promote the concept of formulation driven collaborative care planning"* (P35 1O)

Note. 1: inpatient; 2: community; 3: outpatient; 4: Liaison/outreach; A: adult mental health; C: child and adolescent; F: forensic; I: intellectual/developmental disability; N: neuropsychology; O: older adult; P: physical health; SU: service user; CAT: cognitive analytic therapy; CBT: cognitive behavioural therapy.

Table 12.
Summary of team formulation types

Aim	Features	Theory/Model	Reported Outcomes
Case review			
What are the SU's needs and how do the team best meet them?	Collaborative and practical Highly collaborative with MDT Linking to other review methods	'Five Ps' Adapted CBT	Change to care and risk plans Improved team functioning Engaged with psychological approaches
Formulating behaviour experienced as challenging			
Why is the behaviour occurring and how can the behaviour be managed?	Synthesising staff assessments Encouraging alternative appraisals Contextualising the behaviour, humanising the person	CBT Functional analysis	Increased staff understanding Altered appraisals of the behaviour Less restrictive care approaches
Formulating the staff-service relationship			
How can the team interact more helpfully with the SU?	CP highly involved before/after session Contextualising interpersonal issues Understanding emotional context of the relationship	CAT Attachment theory Systemic theory	Improved therapeutic relationship Improved communication with SU Increased empathy and optimism
Formulating with the SU perspective			
How can services overcome barriers to engaging the SU?	Including the SU perspective Contextualising engagement issues Formulating how SU interacts with services	'Five Ps' Trauma-informed	Improved SU engagement Intervention meaningfully tailored to SU Service-level changes

Note. SU: service user; MDT: multidisciplinary team; CBT: Cognitive behavioural therapy; CP: Clinical Psychologist; CAT: Cognitive analytic therapy.

Aim 2: Is team formulation evaluated and if so, how?[27]

Do Clinical Psychologists evaluate team formulation in practice?

Of the 49 participants to complete this question, 24 (49%) participants described formal evaluation approaches and nine (18%) described informal measures which were included in the analysis. Nine (18%) participants reported they did not use formal methods to evaluate team formulation but did not provide any further details and seven participants (14%) reported no evaluation occurred at all. Some participants identified complexity as a reason for a lack of evaluation:

"The evaluation of the formulation is hard to complete due to there being multiple factors influencing the outcome of the case" (P64)

How do Clinical Psychologists evaluate team formulation in practice?

Based on 33 participants (67%), there were a total of 53 reports of evaluation measures/methods, which ranged from 1-4 per participant with a mean and modal response of one per person. Data were categorised into three levels: (1) Service-level indicators; (2) Team formulation indicators (quality, perceived effectiveness and staff experience); and (3) Service user indicators. These are shown in Table 13 and described below. Answers to this question were analysed from a critical perspective. Connections between outcomes and team formulation processes were unclear in some reports and there were issues with the specificity, subjectivity, sensitivity and validity of some evaluation methods which are highlighted below.[28]

Service level indicators. Four participants reported five change indicators measured through service-specific methods (e.g., record audits, length of admission, general feedback upon discharge). However, connections to team formulation processes were indistinguishable in four responses and absent in one report:

"We ask service user to complete feedback upon discharge and they may comment upon it [team formulation] here but they are not specifically asked" (P7)

Whilst service-level changes are desirable to evidence the potential systemic impact of team formulation, participant accounts convey difficulty achieving specificity within evaluation at this level.

[27] See extended paper section 3.3.2 for quantitative endorsement ratings of outcome indicators
[28] See extended paper section 3.3.1 for more detailed discussion of Aim 2 results

Team formulation indicators. Twenty-four participants provided 33 examples of team formulation indicators. Team formulation perceived quality was measured through audit and the Clinical Psychologist's case-by-case observations. Team formulation effectiveness was captured by evaluating the intervention plan and changes to practice. Staff experience was the most frequently reported outcome and most commonly evaluate via ad-hoc, informal self-report. Other methods used were staff attendance rates and self-report questionnaires - both service-developed and one published questionnaire (Hollingworth & Johnstone, 2014).

Team formulation evaluation used mostly informal and unstructured methods which have limited reliability and validity. It was also unclear from reports what would constitute as a 'good' quality or 'effective' team formulation; the desired threshold or magnitude of change was not reported and may have been subject to interpretation. A lack of general benchmarking of team formulation quality and effectiveness may explain why most participants described case-by-case measures.

Service user indicators. Nine participants reported using service user-level indicators and seven of these were participants whose team formulation was categorised as formulating behaviour experienced as challenging. Five participants reported using standardised psychometric measures of problem severity, incident data, levels of functioning, and goal attainment. One participant used feedback from the service user about using the 'Five Ps' (Padesky & Mooney, 1990) template. It is unclear whether standardised service user measures were sensitive to the change target of the team formulation. Idiosyncratic measures may have been more closely linked to team formulation processes, however, prioritise internal validity limiting generalisability of evaluation findings.

Table 13.

Reported team formulation evaluation methods (N=49)

Indicator	Evaluation Method or Measure	Participant
Service Level Indicators (5)		
Evaluation of care provision	Audit/review of records	P47 14O SS, P60 1FI CR
	Advocacy/service user feedback on general inpatient experience	P60 1FI CR, P07 1A SS
	Length of inpatient stay†	P49 1O BH
Team Formulation Indicators (33)		
Perceived team formulation quality	Annual audit of risk formulation quality	P30 2A CR
	Staff or service user perceive need to amend formulation	P01 1F PR
	Clinical Psychologist observations of process of sessions†	P62 2O ES
	Clinical Psychologist supervision discussions	P17 2A SS
Perceived team formulation effectiveness		
Staff attitude	Perceptions about presenting problems (IPQ)†	P04 1A SS
Staff language	Clinical Psychologist observations of change in staff language	P48 12I BH, P59 2A SS
Changes to care	Clinical Psychologist observations of changes to staff practice	P59 2A SS
	Evaluation of formulation plan through staff support sessions	P36 13P SS
	Evaluation of change to practice through review of records	P46 12A SS
	Development of meaningful and comprehensive intervention plan	P39 1A CO

Table 13.

Reported team formulation evaluation methods (N=49)

Indicator	Evaluation Method or Measure	Participant
Staff experience		
Staff satisfaction	Service-developed questionnaire†	P20 1A CO, P15 12O PR
		P48 12I BH
	Staff rated session helpfulness (Team Formulation Helpfulness	P46 12A SS, P25 1AO PR
	Questionnaire)	P02 2I CR
Staff attendance	Audit: role, service area and professional background	P15 12O PR
	Clinical Psychologist observations of attendance	P66 1F CR
Staff feedback	Focus group	P31 1C CR, P15 12O PR
	Staff meeting without psychology presence	P25 1AO PR
	Online survey	P41 2A SF
	Informal feedback from staff to facilitator	P21 1C ES, P30 2A CR
		P66 1F CR, P61 1FI BH
		P52 12A BH, P28 1A SS
		P23 1C SS, P46 12A SS
		P24 2C SS, P37 1A NA

Table 13.

Reported team formulation evaluation methods (N=49)

Indicator	Evaluation Method or Measure	Participant
Service User Indicators (13)		
Problem severity†	Social integration (CIQ) and mood (DASS) measures	P14 2N PR
	Idiosyncratic behaviour measure†	P48 12I BH, P13 1I BH
	Observed aggression (OAS), unspecified mood and quality of life measures	P33 1N BH
	Overall functioning and problem severity (HoNOS-LD)	P64 2I BH
Goal attainment	Goal attainment scaling	P14 2N PR, P45 2I BH P64 2I BH
	Service user confidence to achieve goals	P49 1O BH
Service user risk	Incident and behavioural observational data	P61 1FI BH, P48 12I BH
Service user feedback	Feedback from service user about using 'Five Ps' formulation template	P15 12O PR
	Unspecified	P61 1FI BH

Table 13.

Reported team formulation evaluation methods (N=49)

Indicator	Evaluation Method or Measure	Participant

Note. 1: Inpatient; 2: Community; 3: Outpatient; 4: Liaison/outreach; A: Adult mental health; C: Child and adolescent; F: Forensic; I: Intellectual/developmental disability; N: Neuropsychology; O: Older adult; P: Physical health. BH: Formulating behaviour experienced as challenging; SS: Formulating the staff-service user relationship; CR: Case review; PR: Formulating with the service user perspective; ES: Emotional support; SF: Solution-focused; CS: Consultation-based team formulation; NA: not categorised into a type. IPQ: Illness Perception Questionnaire (Weinman, Petrie, Moss-Morris, & Horne, 1996); Team Formulation Helpfulness questionnaire (Hollingworth & Johnstone, 2014); CIQ: Community Integration Questionnaire (Dijkers, 2011); DASS: Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995); OAS: Overt Aggression Scale (Yudofsky, Silver, Jackson, Endicott, & Williams, 1986); HoNOS-LD: Health of the Nation Outcome Scale-Learning Disabilities (Roy, Matthews, Clifford, Fowler, & Martin, 2002); 'Five Ps' formulation (Padesky & Mooney, 1990).

† denotes outcome from *a priori* framework

Aim 3: What are the factors that may support/obstruct team formulation?[29]

Forty-nine successful and 32 unsuccessful examples of team formulation were used to answer Aim 3. In general, shared moderators/mediators were reported across formulation 'types' which are provided in Table 14 and discussed below.[30]

A key theme of distress arose as both a perceived moderator and mediator and will be explored as a separate theme for this reason.

Distress.

Distress amongst team formulation attendees permeated team formulation types and different settings. The nature of distress appeared to impact on perceived team formulation success. Where distress related to lack of staff safety (due to violence, hostility, or interpersonal challenges), this was considered hindering. In contrast, concern about a service user's safety appeared motivating for teams to want to protect the person. It is important to note strong emotional responses were not absent from successful team formulations, however, required sensitive management. Strategies to manage perceived team distress were identified as giving team members permission to express difficult feelings as well as modelling, contextualising, and normalising staff responses. A key intervention to harness distress constructively was responding to the team's emotional experiences before addressing the service user's distress. Indeed, some used the space for reflection to process team distress or conflict about the service user.

High levels of distress emerged as a perceived barrier to creating a shared understanding. Uncontained distress, particularly anger or anxiety, meant that teams were less able to explore emotional responses as part of the formulation. This suggests there are specific emotional experiences that may act as a barrier to change. In two examples, the family's distress (driven by dissatisfaction with care) had a perceived negative impact on the team formulation by limiting discussions and plans.

There were a number of discrete variables secondary to the overarching theme of distress that appeared to mediate the success (or otherwise) of team formulation. High

[29] See extended paper section 3.4.2 for quantitative ratings of key aspects of team formulation
[30] See extended paper section 3.4.1 for a discussion of observed patterns by team formulation type

levels of distress obstructed teams' engagement in the key tasks of the session, eroded session structure, and hindered collaboration. These links are discussed further below.

Perceived moderators.

Preparation. Practical considerations (e.g., management arranging for team members to be released from duties, payment for attending sessions outside of working hours) were considered helpful alongside opportunities for promotion and preparation.

In contrast, lack of resource (time, staffing, management support) and high demands were described as hindering to team formulation sessions. An absence of person-centred information or identification of the service user to be discussed at the next team formulation obstructed opportunities for preparation. One participant overcame this by asking team members to complete areas of the formulation to save time and to involve those who could not attend the session.

Role of Clinical Psychology within the team and service. The facilitator's existing relationship to the team was reported by participants whose team formulation centred on the staff-service user relationship. Further, the acceptability/value of Clinical Psychology in the wider service was identified as a facilitative factor across team formulation types.

Barriers to successful team formulation were described as perceived ruptures in this relationship or a lack of team engagement with psychological approaches in general including a limited understanding of the nature/purpose of team formulation. Therefore, familiarity with team formulation, which occurred across examples of successful implementation, suggests a period of socialisation is beneficial.

Perceived mediators.

Group structure. Having a range of team members in attendance, including managers or psychiatrists who could drive changes, was reported as helpful, however, discussions which enabled attendees to input equally were important. Lack of attendance, including key professionals in the service user care, was associated with less successful team formulation. Participants also reported contributions that were uneven (e.g., dominated by an individual) or in conflict with the nature of team formulation were obstructing. This suggests there is a need to manage the content of contributions as well as balancing discussions among team members.

Facilitating a shared understanding. Two factors appeared to support the process of arriving at a shared understanding: making links between past experiences and current difficulties and exploring the staff-service user relationship (important for modifying staff interactions with the service user). Conversely, high levels of team distress obstructed exploration of alternative perspectives meaning teams dismissed psychological information or presented as unable to hold this in mind.

Engaging the team. Strategies to promote collaboration, such as drawing upon the combined group wisdom, appeared to promote engagement with formulation. Communicating the formulation through writing or drawing in the session and sharing this outside of the session was reported as a helpful strategy. Unhelpful power dynamics present within the team created a barrier to engaging the team with a collective understanding.

Managing difference. Establishing a shared goal and respecting different viewpoints were identified strategies to manage different team member contributions. A lack of attention to the variety of views/experiences, or aligning with one viewpoint only, was thought to give rise to conflict in teams. However, in one example, it was perceived that the facilitator attempted to maintain different views which was perceived to cause uncertainty and the subsequent strengthening of a non-psychological understanding of the service user:

"This at times was confusing… this was typical of prejudicial team conflict over a client who copes by having different relationships with different staff… I would also warn that such an approach can harden such views" (P17).

As such, managing different perspectives appears to be a difficult and complex task. Where fostering acceptance of diverse viewpoints and integrating these into a coherent understanding is obstructed, emphasising a commonly held goal or team value may be a helpful strategy.

Facilitating change. Difficulties fostering change were reported when the team sought definitive answers or 'quick fixes'. Ways to overcome this barrier can be gleaned from the accounts of participants who reported successful team formulations. Some incorporated the service user's views to promote empathy and a focus on the individual's context. In addition, facilitators allowed the team to arrive at a new understanding through guided discovery and positive reframing.

Informing practice. A common supporting factor was the creation of a plan which fostered a coherent or psychological approach to care which endured beyond the session. In some instances, team formulation was a vehicle to implement non-medical approaches to care. Barriers to informing change to practice were a task-focused or medical approach, difficulties linking the discussion to formal care plans, and the organisational limitations. In addition, there were two examples of misuse of the formulation in practice which appeared to arise from unmanaged conflict within the session, highlighting the importance of addressing different views of approaches. Some participants reported the helpful use of follow-up support or revisiting the formulation-driven intervention plan.

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
Distress	Strategies to manage distress: • Formulating team distress through normalising, reframing and explaining emotional responses in the context of work with SU • Reflective practice to provide emotional support and process distress • Addressing team anxiety and barriers to change • Exploring dynamics amongst the team *"When some team members were honest about how this SU made them feel, some negative/ inappropriate comments were made. This was managed through positive reframing and introducing discussion about why this might be, given his background, experiences and likely beliefs about others"* (P66 1F)	P62 2O ES P60 1FI CR P19 23P NA P26 12I NA P02 2I CR P66 1F CR P23 1C SS P63 1FA NA	Negative impact of team distress: • Reduced attendance and engagement • Reduced ability to empathise and reflect (and therefore less able/willing to challenge own perspectives) • Nature and content of attendees' contributions • Overrides session structure • Seeking certainty/solutions *"…they tended to contribute in highly emotional terms increasing anxiety in the room. Applying psychological frameworks was attempted but staff were frequently dismissive of anything that attempted to explain behaviour as understandable"* (P39 1A)	P10 13O BH P48 12I BH P43 1O BH P54 1I CS P39 1A CS P56 2C CS P26 12I NA P27 2A SLF P35 1O PR P04 1A SS

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
	Facilitator enables expression of distress *"People had space to get all the negative thoughts, feelings & concerns off their chests at the start so felt 'heard' but could then also identify what the context for these was"* (P20 1A)	P20 1A CS P15 12O PR P41 2A SF	Facilitator's level of emotion *"This did not work well because the psychologist who facilitated was very involved in the case, which was a very complex and emotive case… this lead to some heated discussions"* (P2 2I)	P02 2I CR
	Family distress is managed by sharing formulation *"An explanation…was offered to family and guidance as to how to deal with this without distressing the person"* (P34 2O)	P34 2O BH	Family distress obstructs session aims *"Focus was difficult to ascertain as the parent was keen to discuss the wrongdoings of the current support provider"* (P45 2I)	P45 2I BH P47 14O SS
	Team distress relates to SU safety *"…because the behaviour was so emotive… the staff were keen to do something about it"* (P48 12I)	P48 12I BH	Team distress relates to feeling unsafe when working with SU (e.g., hostility, violence, threats or interpersonal challenges) *"Negative feelings from staff… SU… had made many allegations and been verbally abusive towards staff… [who were] less engaged"* (P26 1I)	P48 12I BH P33 1NP BH P04 1A SS P39 1A CS P54 1I CS P62 2O ES P26 1I NA

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
Perceived Moderators (Setting Conditions)				
Preparation	Arrangements and incentives enable attendance (e.g., flexible delivery, adequate time/space, and management support) *"Sufficient numbers of attendees… can only be achieved by a combination of operational management support and the motivation of individual clinicians"* (P43 1O) "*Scheduling weeks in advance, frequent reminders in person and by email, and emphasising the importance of the meeting helped"* (P1 1F)	P20 1A CS P39 1A CS P01 1F PR P33 1N BH	Lack of resource (time, staffing, management support) *"Resource / time issues - not everybody could attend meeting"* (P15 12O) "*Lacking support from the team manager"* (P63 1F)	P64 2I BH P10 13O BH P46 12A SS P47 14O SS P15 12O PR P65 4F PR P63 1F NA
	Knowledge of SU (e.g., thorough assessments or professionals completing formulation sections prior to session) *"Team had come with a good knowledge of the family, an idea of where they wanted to get to with the family"* (P56 2C)	P10 13O BH P56 2C CS P47 14O SS P14 2N PR P01 1F PR	Lack of contextual/person-centred information about SU *"Staff did not appear to have knowledge about the person, their background or an appreciation of their likes / dislikes"* (P10 13O)	P34 2O BH P28 1A SS P07 1A SS P10 13O BH P15 12O PR

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
Relationship between Psychology and Team	Existing positive relationship between facilitator and team *"I believe the key to making this whole process work is the investment beforehand in developing good relationships with colleagues*" (P23 1C)	P46 12A SS P23 1C SS P38 2I SS	Existing negative relationship between facilitator and team *"Some members of the team seemed threatened by my return and the team formulation sessions being restarted"* (P21 1C)	P21 1C ES
	Existing positive relationship between psychology and service *"Formulation is embedded into practice and the pathway…. The role psychology plays in the leadership of the team* (P64 2I)	P24 2C SS P64 2I BH P35 1O PR	Low level of team engagement with psychological approaches *"Buy-in from [team] was low. Barriers to any alternative interventions to medication were high*" (P47 14O)	P47 14O SS P46 12A SS
	Team's level of psychological mindedness e.g., understanding of chosen model and openness to psychological approaches *"Prior knowledge of formulation model and process"* (P47 140) *"The team were open minded enough to re-evaluate their perspective and to look for meaningful understandings"* (P17 2A)	P07 1A SS P17 2A SS P38 2I SS P47 14O SS P43 1O BH P64 2I BH P14 2N PR P15 12O PR P35 1O PR P65 4F PR P66 1F CR	Team lacks understanding or is resistant to psychological ideas *"Perception from MDT that if there are underlying physical changes in the brain formulation doesn't have a role"* (P15 12O)	P34 2O BH P64 2I BH P33 1N BH P54 1I CS P15 12O PR P02 2I CR

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
Perceived Mediators (Within the Session)				
Group Structure	Equal contributions and non-hierarchal discussions *"No one member of the team seen as an 'expert' on the SU.. Everyone's views and opinions valued"* (P7 1A)	P65 4F PR P25 1OA PR P07 1A SS P20 1A CS P43 1O BH P52 13I BH P31 1C CR P41 2A SF	Unequal or obstructing contributions *"He took over writing on the whiteboard and started to write a list of various diagnoses"* (P20 1A) *"Some members contributed unevenly, particularly those who were more distressed and anxious about the SU*" (P39 1A)	P36 13P SS P04 1A SS P43 1O BH P34 2O BH P25 1OA PR P20 1A CS
	Wide representation of team members including those who have influence (e.g., manager or psychiatry) *"It worked well because of the range of professionals who attended, all with different backgrounds, experience and interests"* (P24 2C)	P20 1A CS P31 1C CR P35 1O PR P24 2C SS	Lack of attendance/engagement e.g., significant team members are not invited or in attendance *"When anxiety is high in workers they can't focus their thinking"* (P27 2A) *"Different team members were not invited to the event"* (P45 2I)	P31 1C CR P02 2I CR P27 2A SF P28 1A SS P26 1I NA P63 1F NA P45 2I BH
	Session structure provides clarity *"… was clearly structured and kept on topic. Outcomes clearly defined and matched the aims of the team"* (P56 2C)	P56 2C CS P05 3I NA P60 1FI CR P31 1C CR	Informal/unstructured approach (e.g., lack of agreement on aim, lack of theory) *"Too much distress and anger in certain members of the group which could neither be contained nor adequately addressed in the group setting"* (P39 1A)	P56 2C CS P39 1A CS P27 2A SF P34 2O BH P63 1F NA P46 12A SS

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
Shared understanding	Contextualising and explaining SU difficulties *"Formulation connected childhood life experiences with particular beliefs and expectations of relationships with others as an adult and the links to particular relationship behaviours and methods of managing strong emotions"* (P59 2A)	P46 12A SS P38 2I SS P17 2A SS P28 1A SS P36 13P SS P59 2A SS P15 12O PR P25 1OA PR P66 1F CR P02 2I CR P62 2O ES P33 1N BH P37 1A NA	Team appears unwilling or unable to consider alternative perspectives *"Very angry staff members in groups who felt blamed if SU's perspective was presented"* (P26 12I)	P10 13O BH P48 12I BH P43 1O BH P54 1I CS P39 1A CS P56 2C CS P26 12I NA P27 2A SF P35 1O PR P04 1A SS
	Understanding staff-SU relationship "*Staff felt more empathy for the patient and understood the trauma and family history could be triggering the patients high risk behaviour"* (P28 1A)	P04 1A SS P28 1A SS P36 13P SS P59 2A SS P17 2A SS P46 12A SS P25 1OA PR	Contextual information is overlooked or unknown *"Little exploration of patient history…assumed this was already known and disregarded as relevant to current crisis"* (P7 1A)	P07 1A SS P46 12A SS

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
Engagement	Accessibility of the formulation to enable shared ownership (e.g., drawing or sharing document) *"The method of writing something down that can be shared allows the team to take ownership of the formulation"* (P27 2A)	P27 2A SF P66 1F CR P33 1N BH	Team dynamics limit engagement *"The Psychiatrist put forward his own views which were at odds with the team manager but did not try to come to a consensus or conclusion"* (P61 1FI)	P31 1C CR P20 1A CS P26 12I NA P61 1FI BH
	Facilitator collaborates with team e.g., using collective team knowledge to make meaning *"Team members were facilitated to contribute their thoughts and experiences of the person the facilitator had a role in clarifying and examining these hypotheses… trying to make meaning out of the person's experiences with support from this collective knowledge"* (P39 1A)	P39 1A CS P10 13O BH P59 2A SS P56 2C CS	Facilitator lacks collaboration with team *"The facilitator did not involve the team in developing the formulation but rather presented it at the end of the meeting which meant that the team did not feel like they owned it"* (P25 1OA)	P25 1O PR
Managing difference	Establishing a shared team goal *"Helps ease differences as the common focus is the safety of the client"* (P27 2A)	P23 1C SS P49 1O BH P31 1C CR P27 2A SF	Different views or experiences are not explored leading to a lack of shared understanding or conflict *"Different perspectives held by professionals were not acknowledged which meant that the reasons behind this were not explored"* (P25 12O)	P2 2I CR P31 1C CR P59 2A SS P17 2A SS P25 1OA PR P61 1FI BH P39 1A CS

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
	Valuing and respecting different views *"Taking care not to shut down ideas and appreciating that different parts of a story may be held by different individuals within the team, without anyone being "right" or "wrong*" (P23 1C)	P07 1A SS P23 1C SS P20 1A CS P43 1O BH	Facilitator aligns with a sub-group *"Facilitation to support the team was not successful and the facilitator was identified with one of the opinions on offer"* (P39 1A)	P31 1C CR P02 2I CR P39 1A CS
Facilitating change	Including SU views *"Having the 5P template so the room could hear difficulties from the person's perspective was very powerful. This immediately helped to remove focus from diagnosis to 'what is this person struggling with?'"* (P15 12O)	P25 1OA PR P01 1F PR P15 12O PR P35 1O PR P31 1C CR P66 1F CR P46 12A SS	Team desires definitive answers or solutions *"Some members seemed to think the purpose of the session was for all questions and concerns to be answered definitively and seemed frustrated when unanswered questions remained"* (P29 1C)	P2 2I CR P21 1C ES P10 13O BH
	Empowering team to consider own strengths, needs or alternative responses *"It allowed guided discovery of new ways of working rather than these being dictated"* (P48 12I) "*Holding hope that life could be improved for the person in spite of some symptoms being chronic and distressing at times"* (P15 12O)	P48 12I BH P33 1N BH P66 1F CR P15 12O PR		

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
Informing Practice	Psychologically informed plan which informs practice "*It then led to a more formal approach to their support; plans were changed to enable staff to support in a more psychologically minded manner"* (P45 2I)	P31 1C CR P02 2I CR P30 2A CR P24 2C SS P23 1C SS P15 12O PR P01 1F PR P45 2I BH	Limited or no practical implications (e.g., task or medical focus, list of problems) *"RC more focused on sedation options and team more focused in risk management techniques, e.g., reactive and intrusive interventions"* (P33 1N)	P34 2O BH P43 1O BH P33 1N BH P07 1A SS P17 2A SS P23 1C SS P41 2A SF P20 1A CS
	Agreement on strategy for consistent/coherent intervention *"…less anxiety and uncertainty in their approach leading to a consistent and understandable response the client could engage with"* (P17 2A)	P17 2A SS P47 14O SS P16 14O CS P28 1A SS P36 13P SS P59 2A SS P25 1OA PR	Service constraints limit how formulation is implemented (e.g., lack of service provision for desired intervention) *"It is difficult for [nurses] to often respond according the formulation approach when they are constrained by the limitations of the environment and their working practice"* (P16 14O)	P47 14O SS P38 2I SS P16 14O CS P15 12O PR
	Formulation informs care planning *"Clearly linked in with care planning process (e.g., ward round)"* (P31 1C)	P28 1A SS P46 12A SS P37 1A NA P31 1C CR P35 1O PR	Perceived lack of accessibility of team formulation *"It can be difficult to engage staff teams/ carers and clients using this method… due to the nature of the client group"* (P64 2I)	P64 2I BH

Table 14.

Factors perceived to support and obstruct team formulation

Factor	Supporting	Participant	Obstructing	Participant
	Opportunity for non-medical approach *"We were able to find a way to respect her refusal of medication, care plan this in and change our approach to supporting her…without medication"* (P35 IO)	P35 1O PR P15 12O PR P65 4F PR	No medical staff involvement limits care planning *"No medics involved…Did not become incorporated into medical or care planning"* (P4 1A)	P04 1A SS
	Providing support for implementing formulation in practice *"The challenge was helping staff stick to the care plans and ensuring consistency…This was done by reminders & further discussion at weekly staff support"* (P61 1FI)	P61 1FI BH P52 13I BH P15 12O PR P35 1O PR P36 13P SS P17 2A SS P37 1A NA	Isolated or misuse of team formulation has negative impact on SU *"Parts of it were used out of context to tell the patient the treatment they needed to do by a team member without agreement from the rest of the team"* (P61 1FI)	P36 13P SS P61 1FI BH

Note. 1: inpatient; 2: community; 3: outpatient; 4: Liaison/outreach; A: adult mental health; C: child and adolescent; F: forensic; I: intellectual/developmental disability; N: neuropsychology; O: older adult; P: physical health; BH: Formulating behaviour experienced as challenging; SS: Formulating the staff-service user relationship; CR: Case review; PR: Formulating with the service user perspective; ES: Emotional support; SF: Solution-focused; CS: Consultation-based team formulation; NA: not categorised into a type; RC: Responsible Clinician; MDT: multi-disciplinary team; SU: service user.

Discussion[31]

This study aimed to describe: (1) the characterisation of team formulation based upon examples from practice; (2) evaluation of team formulation; and (3) the perceived factors supporting and obstructing workable implementation in practice. The findings of each research aim will be discussed in turn and compared to existing psychological theory and literature.

Characterising Team Formulation in Practice

Within this study's first aim, we identified four types of team formulation with a range of facilitation features. These were formulating: as a case review; behaviour perceived as challenging; the staff-service user relationship; and using the service user's views. This extends beyond the three team formulation types identified from reviewing the team formulation literature: formulation-based consultation, reflective practice and informal team formulation (Geach et al., 2017). Further, based on experience from practice, Johnstone (2014) suggests team formulation is used in response to a request when staff are 'stuck' or as a regular fixture of care. Practice-based accounts and research collectively convey the range of differential team formulation functions which could be used to inform standardisation of team formulation practice.

Further, Nic a Bháird et al. (2016) reviewed MDT meetings in community mental healthcare and found discussing service user care and improving teamworking were common functions. There is some overlap with findings from this study, as well as previous literature, which report team formulation focused on service users on a case-by-case basis (Dexter-Smith, 2007; Ingham, 2011; Rowe & Nevin, 2014) and improving team cohesion (Christofides et al., 2012; Craven-Staines et al., 2010; DCP, 2011; Summers, 2006).

Given the areas of commonality between team formulation and other team forums, this calls the specificity of team formulation into question. The team formulation types identified in this study were characterised by the use of psychological theory and Clinical Psychology facilitation (see Table 12) which could be argued as unique features requiring a skilled implementation approach.[32] Given the prominent

[31] See extended paper section 4.1 for further discussion of study findings and theoretical considerations
[32] See extended discussion section 4.1.1 for further discussion of shared and common features

stake Clinical Psychologists have in this practice, it could be argued team formulation functions as a vehicle to promote the value of Clinical Psychology within teams. We found team formulation used a psychological approach to supporting teams with complex service users, difficult behaviour, relationships, and engagement issues. This arguably provides an opportunity to strengthen the value of Clinical Psychology by offering a specialist or unique contribution to an MDT above other professional groups. This reflects current drivers within the profession (Onyett, 2007) and increased demand for working psychologically with complex presentations via collaborative MDT working.

Evaluating Team Formulation in Practice

Within the second research aim, half of the sample reported an absence of formal modes of evaluation. Of those who did report evaluation approaches, there were concerns about the quality of methods used. Most participants focused evaluation at the staff level, reflecting the general approach of the extant literature (Berry et al., 2015, 2009; Ramsden et al., 2014; Whitton et al., 2016). Fewer participants reported capturing data at the service user-level, a measurement approach reported in a small number of articles only (Berry et al., 2015; Ingham, 2011), which is surprising given the DCP (2011) claim team formulation benefits service users. Our results suggest the perceived benefits of team formulation mostly occur at the level of the Clinical Psychologist and the team. Whilst this may have utility, it is unclear whether such outcomes translate into meaningful changes to practice or relevant outcomes for the service user. More research on this is needed to map out whether team formulation can be linked to desired changes at the service user-level.

Given the importance of EBP in Clinical Psychology, it remains important to understand meaningful evaluation approaches to team formulation. This is a relatively emerging practice where shortcomings have been identified (Geach et al., 2017). Therefore, evaluation methods which have the potential to capture both positive and potential negative effects are needed.

Some participants had difficulty knowing how to approach evaluation to capture meaningful changes. Indeed, isolating the effects of team formulation, compared to other factors, on outcome is arguably the main barrier practitioners face (Christofides et

al., 2012; Cole et al., 2015; Ingham, 2015). Given the complexity of this issue, workable evaluation methods and measures remain unclear, yet, many authors conclude more outcomes-evidence is required for team formulation (Cole et al., 2015; Geach et al., 2017; Herhaus, 2014; Weedon, 2016). This means team formulation literature and practice continues to be limited by a lack of specificity regarding what exactly constitutes as 'effectiveness'.

Obstructing and Supporting Factors of Team Formulation in Practice

The identified perceived moderators and mediators of workable team formulation appeared to be common across team formulation types. This suggests some factors underpinning workable team formulation are universal. One theoretical framework which offers a meta-perspective about how change may occur in team settings is Communities of Practice (CoP; Wenger, 1998). CoP suggests collaborative working, learning, and problem-solving can arise in the context of social interactions (Pyrko, Dörfler, & Eden, 2017). This speaks to the findings of this study where participants reported drawing on the collective knowledge of the team to inform an understanding of problems and how to manage them.

The CoP literature further theorises a key process for change in an MDT context is allowing professionals with multiple identities (i.e. as a team member and a member of a particular discipline) to learn to integrate and collaborate (Oborn & Dawson, 2010). Indeed, MDT collaboration was a key feature of the case review approach to team formulation and across team formulation types, socialisation to team formulation, respecting and exploring different team member's perspectives, and identifying a shared team goal were important for workable implementation. The process of teams thinking together (Pyrko et al., 2017) and learning from both tacit knowledge and psychological theory appears to be key to understanding how change may occur within team formulation. These processes appear important for understanding potential team formulation change mechanisms.

A further salient finding was the management of distress amongst attendees appeared integral to team formulation success. Distress appeared to obstruct team formulation via a lack of team's engagement in the process and ability to consider alternative perspectives. Whilst this appears to be an emerging finding with the team

formulation literature, Dexter-Smith (2007) suggests some team members resist or disengage from psychological approaches if they are perceived as an extra demand, suggesting the need to consider team members emotional capacity and timing of team formulation sessions.

A theory often applied to understand issues of intervention success is working alliance (Bordin, 1979). The theme of distress amongst attendees could be understood as a conflict between the facilitator and the team's understanding of the task and goals, creating a rupture in the alliance. The task may initially be to understand and explain a service user's distress. However, participants from this study conveyed that addressing and containing emotional distress amongst teams (and family members in some cases) was a crucial task. There are parallels here with the reflective practice group (RPG) literature where the facilitator's engagement with, and understanding of, distress is considered to enhance learning (Binks, Jones, & Knight, 2013; Smith, Youngson, & Brownbridge, 2009).

Distress amongst attendees was described to limit opportunities for perspective taking and learning. The cognitive theory of reflection (Dewey, 1933) can be applied to understand this process. During times of high stress, it is theorised that cognitive processes are reduced to automatic responses where decisions are made based upon immediate emotional states (Kahneman, 2003). This may suggest why some attendees were described as resistant to team formulation and sought straightforward solutions to problems. Non-reflective thinking is argued to limit capacity for engaging with emotional experiences, sense-making, considering alternative perspectives, and changing belief systems (Hartley & Kennard, 2009; Heneghan, Wright, & Watson, 2014; Schön, 1983). These are arguably key components to engaging with formulation. Therefore, creating conditions for teams to engage in deliberate and purposeful thinking may enable teams to make sense of complex situations (Mann, Gordon, & MacLeod, 2009).

This also has implications for the psychological theory or model used, with some arguing a CBT approach may limit space for engaging with reflective thinking (Wainwright & Bergin, 2010). As this study highlighted that formulating the meaning of staff distress in the context of the work with the service user (or the service more

broadly) was important, models which can accommodate such explanations may offer utility.

Taken together, this study's findings and theoretical approaches offer clear implications for how facilitation might approach team formulation when attendees present as highly distressed - this is considered further under clinical implications.

Provisional Theoretical Model of Team Formulation

One approach to understanding how team formulation can be workably implemented in practice is the contextual model of common factors which conveys 'what works' for individual therapy (Wampold, 2015). A suggested application of this model to team formulation is shown in Figure 3. This study found in general, the relational and formulation skills of the Clinical Psychologist were perceived to contribute to team formulation success, although, there were specific team formulation types which offered different functions. This coheres with the principles of the common factors literature (Wampold, 2015). However, understanding of the common team formulation factors requires further exploration.

Therapeutic Bond	**Expectancy Effects**	**Specific Effects**
• Existing relationship between Clinical Psychologist and the Team • Engaging the team in session • Collaborating with the team in session	• Creating a shared understanding (based on the collective team knowledge) • Facilitating change (empowering the team) • Formulation informs changes to practice	• Collaborating with the team to amend care • Contextulising behaviour to alter appraisals • Understanding emotional context of interpersonal issues • Contextualising engagement issues

*Figure 3***.** The contextual model of common factors applied to team formulation.

Critique[33]

We used an online survey method to enable widespread recruitment. This method allowed for participant anonymity which was important to consider when

[33] See extended paper section 4.3 for critical evaluation

asking for examples of perceived unsuccessful practice. The use of free-text questions permitted detailed responses, however, the level of detail varied, and further exploration or clarification of responses was precluded by this method.

The results of the study were derived from Clinical Psychologist self-reports. Clinical Psychologists have a particular stake in team formulation, a practice seen as inherent to Clinical Psychology, and often facilitated and promoted by this professional group (DCP, 2015; Johnstone, 2014). Therefore, the sample, who may have been motivated to participate based upon their stake in team formulation, was likely biased towards promoting the value of team formulation. We attempted to minimise this bias by asking for both positive and negative observations and experiences of team formulation practices. However, potentially favourable perceptions of team formulation means responses may not be reflective of the realities of practice. Future research which goes beyond single-stakeholder perspectives to triangulate data sources is required.

Similarly, there are significant limitations to the outcomes reported by participants which are of an unknown validity, reliability and accuracy. Therefore, the degree to which the claimed outcomes truly represent the potential changes that may have occurred is unclear. This links to a broader issue within team formulation research, where difficulties mapping the intended aims onto specific and meaningful outcomes are problematic and sparse within the literature (Cole et al., 2015; Ingham, 2015).

Notwithstanding these limitations, this study is the first to analyse a collection of team formulation examples across a range of contexts. This research offers novel findings via identification of specific team formulation types and shared factors of workable team formulation implementation. The knowledge generated expands the literature exploring team formulation from the Clinical Psychology perspective (Christofides et al., 2012; Wilcox, 2013) and offers a theoretical understanding of team formulation in Clinical Psychology practice more broadly.

Clinical Implications

Across team formulation approaches, there appeared to be common strategies for the team formulation facilitation process. These inform recommendations for Clinical Psychologists in practice:[34]

- Creating optimum conditions for team formulation by building positive relationships and openness to psychological approaches
- Drawing upon teams' collective knowledge to promote collaboration and engagement
- Responding to the team's emotional experiences before the service user's distress to engage teams in reflective thinking and accommodating new information
- Exploring differing perspectives in the context of the staff-service user relationship or formulation about service user's presenting problems
- Developing psychological approaches to care which are practical and consider organisational constraints

Research Implications[35]

Future research could test the validity of the identified supporting and obstructing factors. As these were limited to participant self-report and subject to bias, studies could use observational data to measure these variables in practice and investigate any links to outcomes. Further, an existing issue within general formulation research is the need to identify what constitutes an "effective" formulation (DCP, 2011). Understanding which methods, measures and indicators to use to evaluate team formulation remains an important issue and future research could aim to understand how to define or benchmark meaningful difference (or 'effectiveness') of team formulation in practice.

One way to address these areas is through a series of single case efficacy studies to answer whether and how team formulation could be effective. The presence/ magnitude of change and the extent to which outcomes can be linked to team formulation and non-team formulation factors could be assessed. This approach would

[34] See extended paper section 4.2.3 for further discussion of clinical implications
[35] See section 4.2.2 for further discussion of research implications

enable an in-depth understanding of which, if any, team formulation aspects are helpful for producing desired outcomes – and thereby inform the refining and standardisation of team formulation processes.

Conclusion

This study highlights specific team formulation functions and forms based on examples from practice. These may inform the standardisation of future team formulation practice. Evaluation was targeted at three levels (service, team and service-user), however, methods were limited by several measurement issues. Further, proposed common factors that facilitate workable implementation across team formulation types are provided. This study conveys an understanding of the perceived workable implementation of team formulation which goes some way to understanding "successful" team formulation, however, there remains a dearth of understanding about "effective" team formulation. Future research is needed to validate and test the identified common and unique team formulation factors as further understanding of process-outcome links is needed.

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EXTENDED PAPER

Extended Introduction

1.0 Overview

This section extends the journal paper by providing further information about the theoretical context of the research. Consideration is given to the general concept and practice of formulation before considering the context-specific application of formulation to teams. The team formulation literature is further discussed and critiqued.

1.1 Formulation

1.1.1 Definition.

Psychological formulation is a fundamental core competency of Clinical Psychologists (Division of Clinical Psychology [DCP], 2011). There is a range of ways formulation can be defined (Johnstone & Dallos, 2014), a recent, succinct definition states formulation in Clinical Psychology is "the process – and product – of applying psychological theory and concepts to understand the aetiology, meaning, and maintenance of the psychological difficulties…to identify ways in which these difficulties may be managed" (Dawson & Moghaddam, 2016, p.4). This definition mirrors the suggested essential components of a formulation (DCP, 2011; Johnstone & Dallos, 2014):

- A summary of problems
- Based upon psychological principles, evidence, theory or models
- Hypotheses about problem development and maintenance
- Open to revision
- A pathway to intervention

1.1.2 Purpose.

The broad definition and components of formulation facilitate a wide-ranging scope for formulation in practice. The core purpose of formulation is to make sense of information to enhance understanding of the problem and potential intervention for the service user/professional (DCP, 2011). Formulation may also function as: (a) a technique in itself; (b) a bridge between clinical and research contexts; and (c) an alternative to psychiatric diagnoses. In these ways, it is considered that formulation is a tool to promote the professional identity of Clinical Psychology.

Formulation as a therapeutic technique.

There are some arguments that formulation facilitates working alliance in therapy (Grant, Mills, Mulhern, & Short, 2004; Nezu, Nezu, & Colosimo, 2015; Redhead, Johnstone, & Nightingale, 2015; Wills & Sanders, 1997). The potential association between formulation and therapeutic alliance is important to consider given that the alliance is a known predictor of therapeutic outcome (Martin, Gaske, & Davies, 2000). Having a mutual and shared understanding of problems and how to address these is theorised to strengthen alliance in terms of clarity and agreement on the goals and tasks of therapy. Where formulation is undertaken as a collaborative endeavour, this could enhance the therapist-service user bond. However, evidence exploring the link between formulation and working alliance is inconsistent (Chadwick, Williams, & Mackenzie, 2003), although, research on this topic may be hampered by the varying definitions and practices of formulation.

Formulation as a Scientist-Practitioner practice

The DCP (2010; 2011) state Clinical Psychologists are uniquely placed to bridge the gap between clinical information and science (i.e., NICE guidelines, research, theory and psychological principles) through making sense of information in a way that is accessible to service users, carers, and professionals. Formulation is, therefore, one way to work in line with the Scientist-Practitioner model (Corrie & Lane, 2010; DCP, 2011). Clinical Psychology training and practice is based upon this core model (O'Donohue, 1989) which intertwines two roles, the scientist (researcher) and healthcare practitioner (clinician). The Scientist-Practitioner model is considered advantageous for enhancing the quality of the research and delivery of therapeutic treatments and healthcare services (Crane & Hafen, 2002). This framework is suggested to enhance professional decision-making and practice which is an important consideration when Clinical Psychologists may be working autonomously or in a leadership role (British Psychological Society; BPS, 2008).

Critics argue the Scientist-Practitioner model (and its application including formulation) serves a protective function for professional identity (Lane & Corrie, 2007). Within this framework, Clinical Psychologists are promoted as both producers and consumers of research in the context of integrated training in clinical practice and research. This feature arguably offers differential value in comparison to other

healthcare professions. Further, it is argued that in reality, research and clinical practice are commonly seen as separate (Shapiro, 2002), however, the practice of formulation would serve to counter this argument given that it has been described as the "lynchpin which holds theory and practice together" (Butler, 1998, p.2). In this way, it appears that formulation is a way for Clinical Psychologists to demonstrate their valuable contribution to healthcare practice in the context of the Scientist-Practitioner approach.

Formulation as an alternative to psychiatric diagnosis

Formulation appears to have gained prominence in response to the dominant medical and biological approach to mental health (Johnstone, 2017). Therefore, a key function of formulation is arguably to provide an alternative approach to understanding distress when compared to psychiatric diagnosis. Contextualising difficulties and making meaning of experiences, based upon psychological theory, appears to be the unique function of psychological formulation over other approaches. This is particularly important given the wide criticism of psychiatric diagnosis (Boyle, 2007) (see section 1.2 below). Therefore, this enables role of Clinical Psychology alongside medical professions within healthcare services.

Formulation as fundamental to Clinical Psychology professional identity

In addition to formulation as a way to practice as a scientist-practitioner and as an alternative to psychiatric diagnosis, formulation is portrayed as fundamental to the role of a Clinical Psychologist. Documents for UK Clinical Psychology training (DCP, 2010; Skinner & Toogood, 2010) regulatory (Health and Care Professions Council [HCPC], 2015) and guidance (DCP, 2011) argue formulation is a core competency and encourage its use in practice. However, the prominence of non-psychology professionals practicing formulation such as: nurses (Crowe, Carlyle, & Farmar, 2008); social workers (Lee & Toth, 2016) and psychiatrists (Royal College of Psychiatrists, 2017) calls this argument into question. Shapiro (2002) reports there is a need to promote psychological approaches and practices within healthcare, but in a way that does not dilute the identity of Clinical Psychology.

1.2 Critique of Psychiatric Diagnosis

Psychiatric diagnosis understands distress as a disease process underpinned by brain structure/function abnormality. It is the process of categorising signs and

symptoms of mental illness. Two classification systems are currently used: The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) and the International Classification of Diseases (ICD-10).

The reliability, validity and clinical utility of psychiatric diagnosis have been perceived as weak (Frances & Widiger, 2012; Widiger & Samuel, 2005). Low levels of reliability have been found based on lack of agreement on diagnostic judgements between clinicians (Chmielewski, Clark, Bagby, & Watson, 2015; Narrow et al., 2013; Regier, Kuhl, Narrow, & Kupfer, 2012). Cromby, Harper, & Reavey (2013) argue diagnosis is one person's subjective opinion about another's subjective experience and suggest striving for reliability is futile. In addition, symptoms can overlap into more than one diagnostic category and multiple diagnoses are often given to one person, suggesting limited heterogeneity (Kendell & Jablensky, 2003). Psychiatric diagnoses are also critiqued for lacking sensitivity to culture, context and personal meaning (Boyle, 2007; Craddock & Mynors-Wallis, 2014).

Psychiatric diagnosis may be advantageous for service users through facilitating access to resources (e.g., self-help material) and support (e.g., welfare benefits or professional/voluntary services). Advantages for professionals include diagnosis offering a short-hand label to aid communication and the use of diagnostic categories to organise treatment pathways (Cromby et al., 2013).

However, whether the stigma and discrimination which might arise from diagnosis outweighs potential benefits is debated. Medicalisation of distress ignores the substantial evidence between social/life circumstances and mental health and promoted medical intervention for distress. Johnstone (2017) argues loss of personal meaning is a harmful effect of diagnosis which alternative systems should function to restore.

1.3 Critique of Psychological Formulation

Identified criticisms of formulation are the discrepancy in formulation definition, implementation and evidence of the effects of formulation in practice.

It is suggested that formulation has gained prominence due to the dissatisfaction with diagnostic systems and that formulation offers an alternative approach to psychiatric diagnosis (Johnstone, 2017). However, the subjective nature of sense-making of difficulties has opened formulation to criticisms over a lack of reliability

(Bieling & Kuyken, 2006; Flinn, Braham, & das Nair, 2015) - an identified limitation of psychiatric diagnosis.

Following from the broad scope of formulation definitions and essential components, there is huge variation in the use of formulation in practice (Ridley, Jeffrey, & Roberson, 2017). There are a wide number of variables that have implications for the "nature, function, validity, reliability, and utility" of formulation (Dawson & Moghaddam, 2016, p.5). Variables cited in the literature are:

- Formulation level e.g., case or situational level (Grant, Townend, Mills, & Cockx, 2008)
- Formulation delivery e.g., product or process (Johnstone & Dallos, 2014)
- Psychological concepts, models or theories used to explain problems and understand distress e.g., behavioural, cognitive, relational
- Formulation process e.g., level of collaboration (Redhead et al., 2015)
- Professional's type and level of training (Johnstone & Dallos, 2014)
- How formulation links to intervention (Persons & Hong, 2016)
- Setting and context in which formulation is practiced e.g., individual therapy setting or with a professional team (DCP, 2011)

There are myriad variables that create variance in defining and implementing formulation. As a result of this variance, there are concerns that formulation as a unitary practice is not well evidenced (DCP, 2011). Indeed, there is a weak evidence base for the effectiveness of formulation as a therapeutic technique (Aston, 2009; Eells, 2013; Evans & Parry, 1996; Persons, 2006). A recent review identified a lack of consistency measuring formulation quality (Bucci, French, & Berry, 2016). Not only is there a lack of support for the effectiveness of formulation, there are some studies which convey the negative effects on formulation for service users (Chadwick et al., 2003). Evidence suggests undesirable outcomes (e.g., increased emotional distress) arise when formulations are perceived by the recipient as inaccurate (Redhead et al., 2015). Therefore, the use of psychological formulation in practice appears incongruent with some research findings. This weakens the claim that formulation is a Scientist-Practitioner approach into question, and also cast doubt on the significant promotion of formulation at a professional level and the common and frequent use of psychological formulation in practice.

One plausible explanation is that the differing ways formulation can occur in practice creates subjectivity and subsequent difficulties researching the effects of formulation as a singular approach. This is further enhanced by the subjectivity which emerges from the very nature of formulation which, in part, uses inferences and interpretation about idiosyncratic problems (Johnstone, 2017).

The proposed strengths of formulation are cited as the ability to apply theory idiosyncratically to a clinical problem (Dawson & Moghaddam, 2016), thus increasing the degree of personal meaning that can be conveyed through formulation (Johnstone, 2017). Formulation can, therefore, function to contextualise difficulties and provide a holistic view of the person or problem, which goes beyond the limitations of psychiatric diagnosis. Considering both formulation and psychiatric diagnosis, both function as a sense-making process which informs how we understand and address clinical problems. However, a salient difference is that formulation involves the application of psychological theory, highlighting personal meaning, and idiosyncratically informing interventions for the presenting difficulty.

1.4 Team Formulation Definition

Team formulation has been described by Johnstone and Dallos (2014) as "the "process of facilitating a group of professionals to construct a shared understanding of a service user's difficulties" (p. 5). More recently, a functional definition posited team formulation as the process of professionals developing a "shared psychological understanding of presenting difficulties; which summarises their nature, explains their development and maintenance, and guides intervention planning" (Geach, Moghaddam, & De Boos, 2017, p. 27).

1.5 Team Formulation in the context of Clinical Psychology practice

There are multiple documents from Clinical Psychology professional bodies that encourage the use of team formulation. Collectively, such documents promote team formulation as a vehicle for delivering and employing psychological approaches in services.

The profession's regulatory body, the Health and Care Professions Council, (HCPC, 2015), state Clinical Psychologists should be proficient in using formulations to enhance multi-disciplinary team working.

The Leadership Development Framework (Skinner & Toogood, 2010) outlines Clinical Psychologists, from trainee to Consultant level, should lead on formulation within teams as a way to provide leadership, inform care, and develop services.

The DCP Good Practice Guidelines on the use of Psychological formulation (2011) recommend "Clinical psychologists should be using, sharing, promoting and offering training in formulation and formulating within multi-disciplinary teams and organisations" (p.5).

The New Ways of Working document (Onyett, 2007) conveyed a shift towards increased indirect working and working psychologically in teams. The context-specific use of formulation with teams was depicted as time efficient by reaching a professional team and distilling psychological knowledge at a service level through a singular practice.

The Power-Threat-Meaning Framework (Johnstone & Boyle, 2018) cites team formulation as an approach which coheres with the fundamental principles of the framework. The key concepts within this publication (e.g. non-medicalisation of distress, encouraging staff to consider psychosocial causes and maintenance factors of distress) are highlighted as important features of team formulation also. As such, the authors suggest use of the framework for team formulation sessions and as the Power-Threat-Meaning Framework has only recently been published, it is possible that future team formulation practice may adopt this approach. Whilst the framework is based upon a range of evidence, research and theory, it is unclear how this may be fruitfully implemented in a team formulation context.

1.6 Characterising Team Formulation

As with psychological formulation, definitions of team formulation are broad in scope due to existing conceptual difficulties defining precisely what formulation is and is not. This gives rise to the broader issue of inconsistency in how team formulation is characterised (and implemented) in practice.

Guidance exists for the use of formulation (DCP, 2011) however, concentrates on formulation in an individual therapy setting. Clear guidelines outlining the intended purposes of team formulation and how these might be achieved are currently lacking due to the dearth of understanding of team formulation at a basic, descriptive level.

1.6.1 Terms.

The language used in the literature to characterise team formulation has varied widely and therefore impacts on how we might understand, practice, and research team formulation. Terms have included:

- Team formulation meetings (Craven-Staines, Dexter-Smith, & Li, 2010; Dexter-Smith, 2007, 2010; Summers, 2006)
- Psychology consultation sessions (Kellet, Wilbram, Davis, & Hardy, 2014; Murphy, Osborne, & Smith, 2013)
- Shared formulation sessions (Jackman, Fielden, & Pearson, 2017)
- Reflective practice formulation groups (Collins, 2011)
- Complex case discussions (Ramsden, Lowton, & Joyes, 2014)
- Clinical discussion supervision group (Dallimore, Christie, & Loades, 2016)

Such language conveys the overlap between formulation and other Clinical Psychology roles/skills such as consultation, supervision of others, facilitating professional meetings and case discussions and leading reflective practice sessions. See section 1.6.5 for further discussion on the areas of overlap and specificity between these practices and team formulation.

1.6.2 Context.

In addition to the difficulties defining formulation, the diverse language used to describe team formulation may also arise from the varied work contexts of Clinical Psychologists. As evidenced by the extant literature, team formulation has been applied to a range of settings and services in the UK:

- Older adult inpatient services (Craven-Staines et al., 2010; Dexter-Smith, 2007; Hull, 2015; Jackman et al., 2017; Murphy et al., 2013; Tarran-Jones, 2016; Wainwright & Bergin, 2010) and residential teams (King, 2016)
- An older adult directorate including eleven community teams, nine inpatient teams and an outreach team (Dexter-Smith, 2010)
- Medium and low secure forensic inpatient services (Lewis-Morton et al., 2017; Wilkinson, Whittington, Perry, & Eames, 2017) including intellectual/ developmental disability (IDD) forensic inpatient service (Whitton, Small, Lyon, Barker, & Akiboh, 2016)

- Criminal justice team supporting people with an offending history and a psychiatric diagnosis of personality disorder (Ramsden et al., 2014)
- IDD Community (Beardmore & Elford, 2016; Wilcox, 2013) and inpatient (Ingham, 2011; Rowe & Nevin, 2014) services
- Community adult mental health (AMH) services (Blee, 2015; Christofides, Johnstone, & Musa, 2012; Lake, 2008; Manuel, 2016; Wood, 2016)
- Specialist community services such as assertive outreach (Harrison, Sellers, & Blakeman, 2018) and early intervention in psychosis (Herhaus, 2014; Weedon, 2016)
- Inpatient AMH services (Berry et al., 2015; Berry, Barrowclough, & Wearden, 2009; Dallimore et al., 2016; Davenport, 2002; Hewitt, 2008; Summers, 2006)
- Child and adolescent inpatient mental health service (Milson & Philips, 2015)

Implementation of team formulation has occurred across mental health, forensic, dementia, and IDD services. This diversity reflects both the increasing popularity of team formulation but also that this practice has been implemented to meet the needs of a myriad of populations with differing presenting difficulties and care needs. Whilst this is suggestive of team formulation functioning as a multifaceted practice, on the other hand, this may indicate that the exact function and forms of team formulation are currently unclear, resulting in a variety of divergent practices grouped together under the umbrella term of 'team formulation.'

1.6.3 Function.

Given the variety of language used to describe team formulation, it is unsurprising that the function or purpose of team formulation has been characterised in varied ways also.

Reports at the general level suggest team formulation functions to increase teams' psychological understanding about a service user's problems, strengths/solutions (Christofides et al., 2012; Dallimore et al., 2016; Harrison et al., 2018) and to change professional perceptions of service users (Berry et al., 2009; Ingham, 2011; Summers, 2006). Other authors describe that the purpose of team formulation is to enhance professionals' empathy (Berry et al., 2015; Christofides et al., 2012; Wainwright & Bergin, 2010; Whitton et al., 2016; Wilkinson et al., 2017) and compassion (Clarke, 2015). A further reported aim is improving care provision by changing staff interactions

with service users (Berry et al., 2015; Davenport, 2002) particularly in challenging circumstances (Murphy et al., 2013; Ramsden et al., 2014). Moreover, Cognitive Analytic Therapy (CAT) consultancy, which uses formulations with teams (Carradice, 2013; Kellet et al., 2014), emerged from cases where individual psychotherapy was considered unsuitable or predicted to be ineffective. This highlights that team formulation-based consultancy can function as an alternative intervention to individual psychological therapy.

Despite such reports, the exact mechanisms by which the reported team formulation functions are achieved is unclear. This clouds understanding of whether and how the function(s) can be achieved. It is unknown whether there are specific functions of team formulation that perhaps share common facilitation processes. Further exploration of this issue is needed to understand how team formulation can work best in practice.

1.6.4. Facilitation.

Facilitation refers to the assisting or intervening with process and action to create a desired effect (Rogers, 2010). Facilitation of team formulation is yet to be thoroughly explored within the extant literature; there is a lack of theory regarding the facilitator role within team formulation specifically.

Clinical Psychologists report using informal conversations to facilitate formulatory ideas (Christofides et al., 2012). Others adopt a more formal approach and provide formulation training prior to creating a formulation with a team (Ingham, 2011; Murphy et al., 2013). Typically, a high degree of collaboration between facilitators and the professional team is reported (Berry et al., 2015, 2009; Davenport, 2002; Ingham, 2011; Murphy et al., 2013; Wilcox, 2013). In some instances, the formulation is completed prior to being shared with the team (Ramsden et al., 2014; Summers, 2006). Facilitation of team formulation might typically include:

1. Identification of the service user or difficulty to be discussed
2. Agreement on aim or focus of the session
3. Review of the service user's background and personal history
4. Hypothesising potential triggers and maintenance factors
5. Suggestions or plans for how the team, or others, might address problems

As a consequence of the different terms and facilitation approaches, there are a range of ways team formulation has been characterised and implemented. Team formulation has been implemented as a fixed component of usual care (Berry et al., 2015, 2009; Davenport, 2002; Murphy et al., 2013; Rowe & Nevin, 2014; Summers, 2006; Wilcox, 2013) or in response to particular difficulties (Ingham, 2011; Ramsden et al., 2014). One study (Christofides et al., 2012) argues team formulation is practiced as an ad-hoc, informal approach to team working.

Within quantitative research, structured team formulation implementation using procedural frameworks have been described (Berry et al., 2015, 2009; Harrison et al., 2018; Ingham, 2011; Ramsden et al., 2014). Authors of qualitative research report using a semi-structured approach and employing formulation model or frameworks to guide discussions (Davenport, 2002; Murphy et al., 2013; Summers, 2006).

1.6.5 Team formulation compared to other approaches

Team formulation has been confused and compared with existing forms of practice. These forms will be discussed in terms of areas of specificity and commonalities.

Indirect working. Team formulation could be considered a form of indirect working. Clinical Psychologists work with those who provide direct care or support to the service user to promote psychologically informed care and understanding (Onyett, 2007). Indirect work typically centres on liaison with others, for example, within a multi-disciplinary team (MDT), with carers and families/relatives. In this way, the purpose of indirect work is to influence the care of the service user through the behaviour of others (Carr, 2012) in order to improve the functioning and effectiveness of teamwork (DCP, 2008). In comparison, it is argued that team formulation broadens team's psychological understanding (Christofides et al., 2012; DCP, 2011; 2015) and enhances the delivery of clinical care (Berry et al., 2015; Ingham, 2011).

Whilst there are areas of similarity, indirect work appears to be a general term with a broad scope of activities as described by the DCP (2008):

- Supervision;
- Consultation;
- Teaching and training;

- Research, service evaluation and audit;
- Team and service development projects

Therefore, it appears that team formulation, working with a group of professionals to arrive at a shared understanding (Johnstone & Dallos, 2014), is just one form of indirect working where the broader aim is to instil psychological thinking and practice to enhance care provision (DCP, 2008).

Consultation.

A further identified form of indirect work is consultation (DCP, 2008), defined as providing expert or specialist advice and guidance on a process, or work topic (Frew, 2010). This practice is considered to be a cost-effective way of monitoring and influencing the clinical work and outcomes of others (Lake, 2008). Consultation can be considered as a role within which a number of activities and competencies occur e.g., assessment, contracting, intervention, and evaluation (Frew, 2010).

The precise relationship between consultation and team formulation is unclear, with terms used interchangeably in the literature (Ingham, 2011; Lake, 2008; Murphy et al., 2013; Ramsden et al., 2014; Wilcox, 2013). Mattan and Isherwood (2009) described that Clinical Psychology consultation was requested by non-psychology team members when 'stuck' with complex cases, with consultees reporting feeling more empowered in their role and confident about how to progress.

There are similarities here with components of consultation-based team formulation. For example, Ramsden et al. (2014) found those attending consultation-based team formulation sessions felt more equipped to work with complex and challenging service users.

It appears consultation is a role the Clinical Psychologist may adopt to provide guidance on a particular issue. In contrast, team formulation appears to have a narrower scope of generating a shared understanding of presenting difficulties which includes problem development and maintenance with intervention plans (Geach et al., 2017). Team formulation typically occurs with a group or team of professionals, whereas consultation can occur with one (or more) consultees (Frew, 2010).

Reflective practice.

Reflective practice is defined as the process of learning through and from experience with the aim of fostering new insights to improve the self or practice (Boud, Keogh, & Walker, 1985). Synonymous with learning, reflective practice makes use of both existing knowledge and generating new knowledge. Schön's (1983) article was fundamental through arguing that technical knowledge alone is not enough to ensure competent, safe, and ethical practice. Concerns about the emphasis placed upon technical knowledge in healthcare informed the development of reflective practice developed. Therefore, intuitive knowledge, analysis of problems, life skills and tacit knowledge are valued in reflective practice. Hawkins & Shohet (2012) describe the key aspects of reflective practice as: (a) recognising sensorial and emotional phenomena; (b) making sense of patterns; and (c) shifting perceptions and beliefs.

Fisher, Chew, & Leow (2015) argue reflective practice is difficult to define but highly popular in Clinical Psychology practice. In the context of mental healthcare, the high demands and expectations placed on professionals in parallel to fewer resources and stability within NHS contexts mean that reflective practice has been implemented to support staff to manage these conditions.

Team formulation as 'reflective practice' appears to centre around exploring staff's emotional experiences based on their interactions with service users (Davenport, 2002; Summers, 2006). Two additional articles reported using reflective practice in the context of consultancy (Murphy et al., 2013; Wilcox, 2013). In this way, there appears to be a degree of overlap between reflective practice and some, but not all, forms of team formulation.

1.7 Team Formulation Literature

1.7.1 Qualitative research.

The extant qualitative literature has predominantly researched staff experience of team formulation. Interview (Christofides et al., 2012; Harrison et al., 2018; Murphy et al., 2013) and questionnaire (Beardmore & Elford, 2016; Wilcox, 2013) methods have been utilised to capture staff views which are explored below.

Professionals describe increased psychological understanding and empathy towards the service user (Beardmore & Elford, 2016; Harrison et al., 2018; Herhaus, 2014; Kellet et al., 2014; Murphy et al., 2013; Summers, 2006). Change in these

domains may be linked to the exploration of service user's personal history to explain current presenting problems. Qualitative research has offered important insight into the positive indicators of change among those who attend team formulation.

However, some qualitative research has highlighted negative experiences and perceptions of attendees such as cynicism regarding the hypothetical nature of team formulation (Summers, 2006), barriers to change in understanding and empathy (Wainwright & Bergin, 2010), and the cost of time to attend sessions detracting from care tasks (Harrison et al., 2018; Murphy et al., 2013).

A key limitation of our understanding of the staff experience is whether changes in how staff understand a service user's difficulties translate into changes in practice, such as different interactions with the service user. This has been a potential limitation of team formulation raised by participants themselves (Summers, 2006). Whilst participants in Kellet et al. (2014) reported using the formulation to aid interactions with service users, this information is based upon staff's own views of change which may be subject to recall or social desirability bias. Links between the team formulation and clinical practice may be best examined through triangulation of observational methods as well as qualitative self-report.

One qualitative study aimed to describe team formulation implementation from the Clinical Psychologist perspective (Christofides et al., 2012). Participants reported delivering team formulation through informal and implicit modes. "Chipping in hypotheses" (p. 429) during meetings and ad-hoc discussions was used to embed team formulation. Despite using various opportunities, participants reported team formulation was practiced in uncertain ways through trial and error. Subsequently, the authors identified a need for more certainty on how to characterise and implement team formulation.

1.7.2. Quantitative research.

Quantitative research has typically measured change at the staff level and focused on attitudes and perceptions. A key finding revealed 30 AMH staff perceived an increase in control over the care they provided (Berry et al., 2009) using an adapted version of the Illness Perception Questionnaire (Weinman, Petrie, Moss-Morris, & Horne, 1996). Increased tolerance and reduced blame towards service users were also

reported (Berry et al., 2009). As the pre- and post-measures were collected on the same day, it was unclear if changes were sustained.

Ramsden and colleagues (2014) reported more positive attitudes and enhanced confidence in working with service users via the Personality Disorder Knowledge and Skills Questionnaire (Shaw, Minoudis, Craissati, & Bannerman, 2012). However, change was evidenced through 12 participants' data only following significant attrition in the study.

Whitton et al., (2016) used a questionnaire developed and analysed by the author. Whilst team formulation attendees reported satisfaction with the intervention, questionnaire data were of an unknown reliability or validity. Hollingworth and Johnstone (2014) developed a 24-item questionnaire regarding team formulation helpfulness. Ratings from 31 AMH staff suggested team formulation helpfully informed team working, intervention plans and understanding service user difficulties. It is noted a minority of staff rated five of twenty-six items, based on the DCP (2011) claimed benefits, as unhelpful. Further, the authors report non-intervention factors may account for the positive outcomes found.

Using a cluster randomised design, Berry et al. (2015) described staff attending team formulation reported decreased depersonalised and cynical attitudes towards adult service users (Maslach Burnout Inventory; Maslach, Jackson, & Leiter, 1996)

Going beyond staff views, Berry et al. (2015) measured the service-user perspective. Using a cluster randomised control trial, findings indicated improved working alliance form the service users at sites where team formulation was implemented. However, this variable appeared to slightly worsen staff perspective of the alliance. As such, more research is needed clarify the potential impact of team formulation on the working alliance between the team and service user.

1.7.3 Practice-based and opinion articles.

Despite the peer-reviewed literature being in its infancy, there are numerous descriptive accounts of team formulation in practice. A collection of practice-based team formulation articles was recently published (DCP, 2015) which conveys the popularity of this practice through opinion-based articles as well as single-service evaluation reports.

Prior to this, one of the earliest and significant references to team formulation is Dexter-Smith (2007; 2010) who described the implementation of team formulation throughout an entire older adult division in an NHS Trust over three years. There are two notable aspects of Dexter-Smith (2007; 2010) work. Firstly, an adapted CBT approach was used, later coined the Roseberry Park model (Dexter-Smith, 2010), which incorporated the individual's cognitive functioning and the wider environment to reflect meaningful factors impacting on presentation for this clinical group. Secondly, Dexter-Smith (2010) writes about the shortcoming of introducing team formulation at a service-level including the amount of resource and training required (Dexter-Smith, Hopper, & Sharpe, 2010). Nonetheless, team formulation was reported to enhance inpatient and community staff's psychological understanding of service users across both mental health and dementia pathways (Craven-Staines et al., 2010). In this way, the Roseberry Park model was considered widely applicable and of utility to staff (Dexter-Smith, 2010).

A second influential practice-based article is Lake (2008) who described consultation-based team formulation in AMH services. He argues the Clinical Psychologist's role is to model and encourage a psychological culture within the team. The key aspects of Lake's (2008) model are providing "protected thinking space" (p. 18) to generate hypotheses, enable emotional reflections and understand the team dynamics. Answering questions and providing practical solutions to problems are suggested to hinder teams' thinking. Lake (2008) reports integrating cognitive and relational models. The formulation is devised through the following process:

- Linking the service user's past experiences to the current presentation
- Emphasising the protective function of coping strategies adopted during adversity
- Identifying the nature of the service user's relationships and the role of the team in maintaining or challenging these
- Reflecting on teams' emotional, cognitive and behavioural responses to the service user

Lake's (2008) description of this model in practice appears to have played an important role in the development of team formulation as it is frequently cited by authors in the area (Christofides et al., 2012; Craven-Staines et al., 2010; Dallimore et

al., 2016; Murphy et al., 2013; Royal College of Psychiatrists, 2017; Wainwright & Bergin, 2010; Whitton et al., 2016; Wilcox, 2013). Whilst this descriptive article has enhanced understanding of an integrative approach to team formulation in practice, the model has not been evaluated and the impact in terms of outcomes for service users or staff teams is largely unknown.

1.8 Team Formulation Evaluation

1.8.1 Outcomes research.

Despite the DCP (2011) outlining a range of outcomes for service users, staff teams and services/organisations, a key limitation of the literature is that outcomes research has typically centred on change at the staff level. This is in contrast to common practices within outcomes research in psychological therapies. Conclusions as to whether or not change has occurred following intervention are strengthened through the use of measuring change from multiple perspectives across different domains (Tompkins & Swift, 2015). However, outcomes measurement of team formulation has not yet reached this standard meaning only limited conclusions can be drawn about team formulation effectiveness.

Research suggests change occurs at the staff level. Authors report changes in terms of increased empathy, increased tolerance (Berry et al., 2009), reduced depersonalisation and cynicism (Berry et al., 2015). Cognitive changes are reported as increased psychological understanding (Berry et al., 2009; Hollingworth & Johnstone, 2014; Ingham, 2011; Ramsden et al., 2014) and reduced blaming of service users (Berry et al., 2009).

Focusing on the output of team formulation in an older adult inpatient setting, Hull, (2015) reported that the content of care-plans changed post-formulation. The documents reflected an increase of person-centred information. Whether change in practice followed from the altered care plans was beyond the scope of the study and remains unclear.

Few studies have measured change at the service user level. Ingham (2011) found reduced problematic behaviour for one service user, however, this study did not directly control for, or measure, the relationship between the intervention (team formulation) and outcome. In a cluster randomised design study, service users in the

intervention cluster reported feeling less criticised by staff and improved therapeutic milieu (Berry et al., 2015). Beyond these studies which report reduced problem severity and improved alliance with staff, evidence of the impact on service users is lacking.

1.8.2 Critique of team formulation outcomes research.

There are significant gaps in the team formulation literature relating to descriptive information of team formulation as well as potential key processes. There are also methodological issues within existing studies which limits the strength of conclusions and generalisability of study findings.

Descriptive-level information.

The wide variation in the ways in which team formulation is defined and implemented (Geach et al., 2017) means that currently descriptions of practice are fragmented, inconsistent and convey an incoherent sense of team formulation in practice. There are gaps in the research in terms of what is occurring when team formulation is practiced and how team formulation can be workably implemented in services. Therefore, a research priority is the need to understand team formulation at a basic, descriptive level.

Elliott and Timulak (2005) argue that descriptive-qualitative research aims to answer questions about what kinds or varieties the phenomena occurs in and the key aspects of the phenomena. It is important to begin with a descriptive understanding of team formulation to offer a meaningful portrayal of the forms, functions and features of team formulation in practice. Until this is established, research investigating the effects of team formulation cannot be meaningfully linked to important processes occurring within team formulation.

Team formulation process.

Process research in psychotherapy aims to explore how and why an intervention produces effects (Tompkins & Swift, 2015). The evidence-base for team formulation is in its infancy and studies have reported both positive and some negative effects (Geach et al., 2017). However, there is a paucity of understanding of how and why team formulation might produce desired outcomes or not and the potential processes within team formulation remain unresearched (Cole, Wood, & Spendelow, 2015). Considering

potential processes from a theoretical perspective is needed to identify key factors that could then be validated and tested in future research and practice.

Methodological issues.

There are limitations to the team formulation outcomes research due to identified methodological issues within the literature (Geach et al., 2017).

Firstly, lack of measurement of confounding variables in studies (Ingham, 2011; Ramsden et al., 2014) clouds team formulation evaluation as it is less certain that reported outcomes can be specifically linked to the team formulation, rather than other factors. This calls the internal validity of studies into questions and raises the possibility that there are alternative explanations for change in outcome domains. Despite a lack of control over non-intervention variables, authors have previously presented outcomes as linked to team formulation (Geach et al., 2017). Therefore, the numerous claims made about the positive outcomes from team formulation should be considered with caution.

Secondly, there is an absence of both theoretical and statistical relationships between team formulation-specific process and indicators of change in the extant literature. Without knowledge of the key variables to consider, the degree to which the effects of team formulation can be isolated is therefore limited.

Thirdly, some outcomes reporting appears to be based upon authors' subjective opinions (Summers, 2006; Wilcox, 2013). Whilst this is helpful for providing a description of team formulation in context, the claims about perceived helpful aspects of team formulation may be subject to bias and are difficult to validate.

Finally, many outcome studies claiming benefits such as professional satisfaction with team formulation and changes to professionals' perceptions such as empathy have employed author-developed questionnaires (Beardmore & Elford, 2016; Kennedy, Smalley, & Harris, 2003; Whitton et al., 2016; Wilcox, 2013). Other studies have utilised informal feedback from staff (Hewitt, 2008) and informal observations (Lake, 2008) to evidence change. These methods are of an unknown reliability and validity potentially limiting the accuracy of findings.

There is the potential that items included within the author-developed questionnaires may capture the phenomena of interest to the author, which may not be a systematic or theoretical approach to measurement, therefore content validity may be an

issue. Questionnaire items and scales are also likely to differ across studies and whilst the measure may be sensitive to the potential desired outcomes for particular contexts, this restricts comparisons to other studies limiting external validity.

A lack of standardised evaluation approach in the extant literature may be indicative of the current absence of understanding of the established factors that are important in team formulation evaluation.

Limited generalisability.

The majority of research uses a pre-post design to evaluate team formulation. Most evaluations are limited to single-service applications of team formulation and rely upon small sample sizes (Berry et al., 2009; Harrison et al., 2018; Ingham, 2011; Whitton et al., 2016; Wilcox, 2013). Whilst such studies provide an understanding of the types of settings in which team formulation is practiced, single-service evaluations obfuscate identification of the common factors of team formulation success. There is, therefore, a need to understand team formulation at a broader, theoretical level.

1.9 Evidence-Based Practice and Practice-Based Evidence

Evidence-based practice (EBP) is a concept closely linked to the Scientist-Practitioner approach. EBP refers to bridging psychological theory with clinical material which is argued to enhance the quality of psychological practice. As the dominant model of healthcare in the UK, EBP encompasses three components:

- The best available research evidence;
- Clinical expertise;
- Patient values, preferences, characteristics, and circumstances

There is current pressure to follow UK clinical guidelines (e.g., NICE), which promote empirically-supported treatments, in order to impart research into clinical practice. EBP arguably allows for standardisation of practice and creates assurance about intervention quality when based upon the best available evidence.

In this way, using the EBP paradigm enables Clinical Psychology to remain a Scientist-Practitioner profession. This paradigm is beneficial for guiding training, intervention and service delivery. EBP also allows Clinical Psychology to have a stake in evidence-based healthcare alongside the dominant medical model.

Some argue that EBP is a flawed paradigm that places value on research from a largely positivist philosophical approach (e.g., Randomised Control Trials [RCTs]) over other forms of knowledge (e.g., case studies) and is therefore limited in scope and clinical utility. RCTs can provide useful information about the effectiveness of treatment for groups of people. However, because RCTs measure whether an intervention works across a broad group or population, RCTs lack depth into individual differences. It can also be difficult to identify process (how and why interventions can work) in large-scale RCTs. This calls into question what constitutes as evidence and research.

Further concerns arise over EBP, which places emphasis on research over intuitive clinical knowledge. Criticisms are cited as: publication bias (where positive results are more likely to be published than negative findings); and gaps between practice and research (the delay in the extant research reflecting current trends or issues within practice).

Further shortcomings of EBP are highlighted in clinical scenarios where service users do not respond to recommended/evidence-based interventions, meaning clinicians must rely on clinical judgement over evidence. Indeed, NICE guidelines provide recommendations only and these should be applied flexibly considering individual circumstances and preferences, particularly as Isaac and Franceschi (2008) identify that EBP lacks sensitivity to culture and context.

Practice-Based Evidence (PBE) is a form of applied research and refers to the development of approaches derived from practice in context. Such research can be high in external validity allowing generalisations to other clinical settings (Barkham & Mellor-Clark, 2003; Spring, 2007). Practice-based research, such as case study, effectiveness, and process research, are typically grounded within clinician perspectives and clinical data (Henton, 2012). In contrast to RCTs, PBE provides an understanding of intervention process and outcomes for individuals or groups in service contexts and is sensitive to current service delivery and clinical issues (Lucock et al., 2003). Some argue research into formulation should take PBE approach as formulation is centred on idiosyncratic clinical material which is contextualised by theory/research (Margison et al., 2000).

1.10 Team Formulation Obstructing and Facilitating Factors

The extant literature offers a limited understanding of the key processes that facilitate change within team formulation. A small body of literature has utilised theoretical frameworks to consider how best to facilitate change in team formulation sessions.

1.10.1 Staff-service user relationship.

Berry et al., (2015) highlight the important role of the relationship between staff and service users, particularly for long-stay service users. This target of change was informed by research and theoretical evidence for enhancing the wellbeing of service users with psychosis. Team formulation sessions aimed to enhance the quality of the staff-service user relationship by reframing problems as ways to cope and highlighting support plans to promote recovery (Berry et al., 2015). This was, in turn, theorised to support desired outcomes for the service user (better functioning and reduced symptoms of psychosis). Berry et al., (2015) found no change in the service user's presentation. Whilst service users reported improved relationships with staff and a more therapeutic ward environment, staff perceptions of this relationship slightly worsened. Authors theorised this may be due to the nature of team formulations where negative or difficult experiences of the service user are discussed and contextualised.

Given the importance of attachments between service users and their professional teams, interventions which seek to focus specifically on this relationship arguably have an important role for enhancing caregiving in services. However, whilst the limited research suggests that service users may be observant of changes to the emotional nature of connections with professionals (Berry et al., 2015), further research is needed to understand whether targeting the staff-service user relationship is a helpful team formulation mechanism, as well as exploring the ways in which this mechanism could be harnessed and promoted in practice.

1.10.2 Staff attributions.

Ingham (2011) utilises Weiner's Attribution Theory of helping behaviour (Weiner, 1980; 1986). Attributions are the beliefs and interpretations that individuals construct to make sense of and determine causes of events. This theoretical framework proposes attributions are classified along three dimensions:

- Locus (internal vs external cause)
- Stability (temporary vs consistent cause)
- Controllability (cause is within vs beyond the person's control)

Attributions are theorised to inform both affective and behavioural responses to events (Weiner, 1980, 1986). As such, this theory has relevance for healthcare professionals in terms of staff perception of the causes of mental health problems/ behaviours experienced as challenging and subsequent staff care practices (Todd & Watts, 2005). However, a review indicated that this theory is only partially supported within IDD care professionals (Willner & Smith, 2008), suggesting there are additional factors that might influence how staff respond to service users. Identifying and challenging explanatory beliefs about service user's presenting problems is one potential area, amongst others, with the potential to effect change within team formulation.

Ingham (2011) reported formulating behaviour experienced as challenging in the context of a service user's life events, whilst also considering the systemic factors (staff responses to the person) which maintained the behaviour. The author reported a decrease in staff reports of the target behaviour and suggested this is due to a change in how the behaviour was appraised by staff. However, there was no specific measure of staff attributions pre- and post- team formulation to confirm this process.

Two further studies used staff attitudinal measures with promising results. Berry et al. (2009) used the Illness Perception Questionnaire (Weinman et al., 1996) and found more helpful self-reported attitudes regarding the causes and degree of control and stability of service user's difficulties. Likewise, service users reported feeling less criticised by staff who attended team formulation over a six-month period in Berry et al., (2015), although, staff did not report any change in this measure themselves.

Taken together, it appears that targeting staff attributions may particularly apply where behaviours challenge professional teams, creating attributions about the causes and nature of problems. Given the explanatory nature of formulation, this has acted as a vehicle to ground attributions of problems within a person-centred context as a way to generate more helpful beliefs. It appears to be unclear from the literature whether this

results in subsequent changes to care, however, appears to be one area that would benefit from further exploration.

1.10.3 Group supervision.

In addition to specific cognitive and relational mechanisms, it is possible that the group context of team formulation practice could have either helpful or hindering effects. This is explored further by drawing on the group supervision literature and theory.

Group supervision aims to promote supervisee development and enhance clinical care. Processes within group supervision are theorised to be different from individual supervision given the introduction of group dynamics. Aronson (1990) highlights the success of group supervision is dependent upon the role of the supervisor, their relationship with attendees, and interactions between group members. Further, the emotional climate of the group can be both a helpful and hindering factor, based upon supervisee's perceptions of the level of trust and support within the group. In a conceptual mapping study, Carter, Enyedy, Goodyear, Arcinue, and Puri (2009) identified a number of helpful factors of group supervision variables as shown in Table 15 below.

To date, group processes have not yet been explored in the context of team formulation, however, previous findings (Carter et al., 2009) have implications for understanding the processes that may be pertinent. Further research is needed to understand whether these factors transfer to team formulation and how best to mediate potential helpful factors such as those cited by Carter et al. (2009).

Table 15.

Domains of change in group supervision from Carter et al. (2009)

Domain	Examples
Supervisor Impact	Competence, providing feedback, giving ideas and instructions
Specific Instructions	Clarification of policies and procedure, clinical issues
Self-understanding	Learning from mistakes, processing counter-transference, exploring differences
Support and Safety	Validation, sharing and normalisation of feelings, camaraderie
Peer Impact	Giving and receiving peer feedback, ideas through group discussion, learning from others' clinical experiences

1.11 Rationale

Most of the team formulation research has focused on attendees' views and there has been little research (Christofides et al., 2012; Wilcox, 2013) from the perspective of the Clinical Psychologist. As Clinical Psychologists play a key role in team formulation (e.g., facilitation and leadership on formulation), it is likely that they are more conscious of psychological processes than attendees and can, therefore, offer a different insight than is portrayed in the literature. Therefore, the experiences of Clinical Psychologists could offer a further dimension of understanding team formulation in addition to non-psychologist accounts.

1.12 Research Aims

Descriptive research has a place in the early stages of research and evidence base of a topic. Identifying variables and potential links, including possible or perceived moderators and mediators of outcome, provides a conceptual foundation to inform future research. Table 16 below outlines the definitions and scope of the key terms used within the research aims.

Table 16

Definition of key terms used in research aims

Term	**Definition**	**Scope**
Characterisation	Description of features	Common and unique features within- and between- types
Function	Practical use or purpose	Defined by participant and based upon the example of practice
Outcome	Change that occurs following intervention	Service user, staff and service levels. Participant perception and self-report
Evaluation	Assessment of change	Both formal and informal evaluation approaches
Successful example	Perceived by the participant to have worked well	Level of success defined by participant
Facilitating Factors	Variables perceived to have contributed to the success of the team formulation (why it worked well)	Helpful factors, overcoming barriers, managing challenges
Obstructing Factors	Variables perceived to have limited the success of the team formulation	Hindering factors, obstructing workable team formulation
Unsuccessful example	Perceived by the participant not to have worked well	Level of unsuccess defined by participant

Extended Method

2.0 Overview

The following section provides ethical and governance considerations and the philosophical position adopted for this research. A fuller account and critique of the methodological and analysis approach is provided.

2.1 Ethical and Governance Considerations

Ethical approval to conduct the study was sought and granted by the University of Lincoln's School of Psychology Research Ethics Committee. The research was conceived and conducted in line with the BPS Code of Human Research Ethics (2014). The following information was included in the participant information sheet[36]:

- Research personnel
- Ethical approval
- Study purpose
- Right to volunteer to participate or not
- Information on what to expect from participation
- Approximate survey length
- Potential benefits and risks to taking part
- Right to withdraw and withdrawal procedure
- Confidentiality and data storage information
- Data usage and dissemination
- Complaints procedure
- Researcher contact details

Initial correspondence and social media posts contained the study aims and purpose, inclusion criteria and brief details about what to expect from participation.[37] Participants were also provided with a debrief upon survey completion. [38]

Participants generated an identification code that allowed for withdrawal of responses whilst protecting anonymity and confidentiality. Survey responses were

[36] See Appendix G for participant information sheet and consent form
[37] See Appendix K for recruitment adverts
[38] See Appendix H for participant debrief information

anonymised and therefore not traceable back to individuals. Survey data were kept on a password protected database, on an encrypted laptop. Study responses will be kept securely and anonymously for seven years in line with the University of Lincoln research and data storage procedure.

2.2 Epistemological Position

The epistemological position adopted for this research was critical realism. This framework argues there is a reality to be known and whilst constructs can be accepted, the ways of researching and understanding the construct are viewed through a critical lens (Cook & Campbell, 1979). Thus, a realist ontological position was adopted in parallel with a constructivist and relativist epistemological stance (Bhaskar, 1998). Critical realism developed in response to the shortcomings of positivism and interpretivism and considers all methods are sensitive to error and bias (Gorski, 2013).

The critical realist approach is arguably congruent with the concept of formulation. When formulating, an individual or team's distress is accepted as a real experience which can be accessed. However, it is acknowledged that formulation is one explanatory framework which is open to critique (Dawson & Moghaddam, 2016) and other ways of understanding distress may be useful. In addition, Clinical Psychologists generate different formulations due to the variety of theoretical models adopted to understand distress (Flinn et al., 2015). Therefore, critical realism was considered an appropriate epistemological position for this research.

The critical realist position informed this project in a number of ways. Firstly, the use of theories underpins epistemology within critical realism (Fletcher, 2017). This study's research questions were informed by consulting the extant team formulation research and emerged from the current need for an over-arching theoretical understanding of team formulation in practice.

Further, critical realism is concerned with underlying causal mechanisms, however, understands these to be non-linear and socially construed (Sayer, 2000). This descriptive research sought to identify participant perceptions of the factors which obstructed or facilitated team formulation practice. These factors were understood from a theoretical rather than a positivist cause-and-effect position.

Moving to data collection, Fletcher (2017) states that critical realism "aims to find the best explanation of reality through engagement with existing (fallible) theories about that reality" (p.186). Fletcher (2017) also highlights that participants' accounts can offer a useful perspective on the reality of the studied phenomena. Therefore, this study sought to bridge participant experiences with existing theory via an inductive and deductive approach to data collection. Participants endorsed features identified from the current literature and also provided descriptive information based on their own experiences. Together, these were used to generate new knowledge.

With regards to data analysis, researching from a critical realist position encourages transparent articulation as to how conclusions have been achieved (Sayer, 2000) to enable other researchers to replicate the same approach (Barker, Pistrang, & Elliott, 2003). Whilst this is a cited strength of Framework Analysis (Ritchie & Spencer, 1994) there is a lack of understanding of the steps required for a critical realist approach to data analysis (Bygstad & Munkvold, 2011). Nonetheless, critical realism generally promotes a focus on the identification of the contextual conditions which may underlie important processes (Fletcher, 2017). Therefore, data analysis focused on explaining patterns and nuances within the data, both within- and between- cases, and focused on the salient themes which were important for team formulation in practice.

This study's results were discussed in the context of existing meta-theories (see section 4.0) which is consistent with a critical realist approach. Whilst the critical realist position accepts theories as useful for knowing the nature of reality, theories are considered limited and should be subject to critique (Sayer, 2000). Therefore, no one theory can offer a total explanation and so multiple theories were considered when interpreting the study results overall.

Finally, a critical perspective was taken throughout this study holding in mind the key principle of critical realism: whilst reality can be known, the methods used to understand reality are unlikely to provide a full, acceptable understanding. For example, participants reported observed outcomes from team formulation they had been involved in. These self-reported accounts were considered as claims rather than being accepted as accurate and definite. In addition, the shortcomings of this study's method and the impact on the generalisability of results are explored (see section 4.4).

2.2.1 Researcher's position

Elliott, Fischer, and Rennie (1999) state the researcher's account of their assumptions and views should be unpacked in order for readers to evaluate the extent to which these influenced study results.

At the time of designing and undertaking the research, I had experience of team formulation within IDD and older adult services in NHS settings which left me with mixed views about team formulation. Following some team formulation sessions, I perceived there were significant shifts for staff teams and felt this was meaningful and valuable in services which could be dominated by medical understandings of distress. Other experiences of team formulation were flavoured by perceived resistance in the form of non-attendance and interference from staff members. Given the context of these experiences, service users did not attend or have knowledge of the team formulations. It is noted this is not reflective of all team formulation practices (e.g., Lewis-Morton et al., 2017; Tarran-Jones, 2016).

My perspective on researching team formulation has been shaped by undertaking a systematic review of the team formulation literature (Geach et al., 2017). We found some articles reported an absence of change, as well as some negative outcomes, from team formulation. This encouraged me to approach this research from a critical perspective and address both the potential for positive and negative elements of team formulation in practice.

2.3 Survey Method: Rationale and Critique

2.3.1 Advantages of the survey method.

Surveys allow for recruitment of a large number of people in a way that transcended geographical limitations (Granello & Wheaton, 2004). As previous studies of team formulation have been mostly limited to single services, the survey method allowed for efficient data collection from a heterogeneous (in terms of work context) and large professional group. Pragmatically, the online survey was of no financial cost to the researcher team, enabled control over the survey content and format, and permitted instant and easy retrieval of the data (Granello & Wheaton, 2004). There is some suggestion online methods of data collection are becoming increasingly preferable

in populations where e-mail and internet access is widespread (Neville, Adams, & Cook, 2016).

The survey method was advantageous for enabling anonymous participation. This was an important consideration for this study, which included an optional section regarding unsuccessful team formulation implementation and prompting for both negative and positive outcomes from team formulation sessions. Evidence suggests anonymity provides assurance when survey participants decide whether to disclose sensitive information or not (Ong & Weiss, 2000). However, the nature of this study's design meant the factors which inhibited or enabled completion of the second 'unsuccessful' example are unknown.

2.3.2 Limitations of the survey method.

Survey data are limited by self-report and, therefore, subject to a range of threats to validity and reliability. Firstly, participant's retrospective descriptions of team formulation examples may have been limited by recall error (Krosnic & Presser, 2010) where memory of past events may be inaccurate. We did not specify a maximum recall period, however, participants the saliency of the example (either successful or unsuccessful), as well as prompts used within survey questions, may have aided recall.

Secondly, self-reported data can be limited by social desirability bias, where information is misreported or tailored to appear favourable or acceptable to researchers (Althubaiti, 2016; Krosnic & Presser, 2010). Thirdly, individuals more invested in the topic of team formulation were likely to have been more motivated to respond. Whilst it is difficult to control for systematic bias in the data, efforts to reduce reporting of favourable and skewed experiences were made through including prompts to consider both positive and negative outcomes and hindering as well as helpful factors.

Further practical limitations of the survey method are cited as low response rates, with a suggested instant attrition rate of at least 10% (Hoerger, 2010), and technology issues impacting on access and completion rates (Granello & Wheaton, 2004). Whilst incentives have been suggested as a means to improve response rates, these were considered to have little impact when recruiting psychology professionals who may appraise monetary incentives as unethical (Van Horn, Green, & Martinussen, 2009).

2.3.3 The survey method and types of error.

Specific considerations for managing error arising from the survey method were considered for this study (Diem, 2004). Strategies to minimise error were discussed during the survey development, as described in Table 17.

Table 17.

Types of error within the survey method (from Diem, 2011)

Error Type	Consideration for this study
Sampling Error. The degree to which the sample is representative of the group being surveyed	It is difficult to know how representative this sample is of the UK Clinical Psychology population who practice team formulation, as the size of this subgroup is unknown. However, demographic variables and the setting/service context of participants was monitored during recruitment to facilitate heterogeneous representation
Frame Error. The level of accuracy of the list from which respondents are drawn	The recruitment strategy was targeted to UK Clinical Psychology groups and professional networks
Selection Error. The degree to which there was an equal chance of being selected	Inclusion criteria were broad in scope to include all participants who identified as having some degree of team formulation experience. This was later specified via self-report to enable inclusivity
Measurement Error. Validity and reliability of the questionnaire	Survey aims and questions were developed based on a systematic literature review and knowledge gaps. The survey was piloted to screen for potential face-validity issues of survey questions
Non-response Error. How the generalisability of findings may be affected because of those who did not participate	In an attempt to mediate the effects of participants with positive views about team formulation, both successful and unsuccessful examples from practice were gathered. Both positive and negative outcomes were captured also.

2.4 Survey Development

Five participants who met study inclusion criteria and represented a subset of the overall sample were asked to complete a Pilot version of the survey on a voluntary basis. Recruitment to the Pilot was based upon maximising heterogeneity of team formulation implementation as shown in Table 18 below.

Table 18.

Pilot participant characteristics (n=5)

Participant	Gender	Clinical Population	Service Type
1	Female	Children and Adolescent Mental Health	Community
2	Male	Intellectual Disability	Community
3	Female	Intellectual and Developmental Disability	Inpatient
4	Female	Adult Offender Health	Prison
5	Male	Adult Mental Health	Inpatient

Pilot participants were asked for feedback on the following elements with a view to improving the validity, reliability and sensitivity of the survey (Bowden, Fox-Rushby, Nyandieka, & Wanjau, 2002):

- Readability and clarity of wording of questions and instructions
- Language that was confusing or ambiguous
- Areas of overlap in the questions
- Double-barrelled questions
- Flow of the survey
- Usability including technical issues
- Length of completion

Specific consideration was given to indicators of question content validity as described by Bowden et al. (2002). Pilot responses were viewed to reveal how participants interpreted questions and any misunderstanding of questions or instructions (Bowden et al., 2002; Granello & Wheaton, 2004). Based upon the Pilot, the following changes were made before launching the survey:

- Grammatical and typographical errors were corrected
- Design features were amended for usability e.g., adding an 'other' option and making text boxes larger
- The question recording the participant's epistemological position was specified as in the context of clinical practice
- A question about the potential challenges of the successful team formulation example was added
- Prompts to guide respondents for the question about the process by which team formulation was created were added in due to pilot responses appearing vague and brief

2.5 Survey Description[39]

2.5.1 Demographic variables.

The following variables were recorded to enable characterisation of the sample and comparison with other studies. Each variable was collected using multiple choice questions (rather than free-text response questions) to increases chances of maintaining anonymity:

- Gender
- Age bracket
- Length of time qualified as a Clinical Psychologist
- Length of time actively involved in the practice of team formulation
- Length of time working in the service where team formulation was practiced
- Population of work (e.g., AMH, older adult)
- Service type of work (e.g., inpatient, community)
- Work sector (NHS, private, independent)
- Epistemological position
- Previous team formulation training

2.5.2 Aim 1: Characterising team formulation.

Participants were asked for two specific examples of team formulation they were involved with:

[39] See Appendix I for the online survey

(1) An example of team formulation that was perceived to have ***worked well***
(2) A second example of team formulation that was perceived to have ***not*** worked well

A number of questions were asked of both examples in terms of the purpose, process and how the team formulation was used in practice. Further, participants were asked to report positive or negative outcomes at three levels: service user, staff and the service. Participants were also given the opportunity to provide further information regarding the example.

2.5.3. Aim 2: Team formulation evaluation.

Participants were asked "How is team formulation evaluated? Please state sources of information or measures used." The analysis for this question is provided in the Journal Paper results section.

Additional analysis is provided for responses to a series of quantitative questions used to address this research aim. Seventeen outcomes claimed to arise from team formulation as outlined by the DCP (2011) and nine outcomes identified by Geach et al. (2017) were presented. Participants rated how frequently each outcome arose from team formulation based on their own experience. A five-point Likert scale ranging from 'always' to 'never' was used. See section 3.3.2 for results.

2.5.4. Aim 3: Factors obstructing/facilitating team formulation in practice.

Within the examples of team formulation practice, participants were asked about the perceived obstructing and supporting factors for both example types ("In what way(s) did this team formulation (not) work well? Why did it (not) work well?"). Participants were also asked about ways of managing perceived obstructions ("In this example of team formulation that worked well, please describe any challenges or limitations and how these were managed").

An additional quantitative approach was used to address this research question. Participants rated 20 suggested key aspects of team formulation in terms of importance for generating desired outcomes using a four-point Likert scale (essential, desirable, neutral and unimportant). Aspects were derived from content analysis of team formulation implementation studies included within Geach et al. (2017). Results are presented in section 3.4.2.

2.6 Participants

2.6.1 Inclusion and exclusion criteria.

This professional group were necessarily aged over 18 years and able to speak and read the English language proficiently (reflecting the level of study required for training and professional accreditation). Two inclusion criteria were applied:

- Qualified Clinical Psychologist from the UK
- Some experience of involvement in team formulation in practice

Due to the survey method, inclusion criteria were endorsed by participants self-identification only and not assessed by the researchers. Whilst it is not possible to control who accessed the survey, Clinical Psychology professional networks were specifically targeted for recruitment to limit opportunity for non-Clinical Psychologist participation.

Regarding the second inclusion criteria, the degree of team formulation experience was later ascertained via a multiple-choice question within the survey measuring how long the participant had been involved in team formulation for. Options ranged from: 3 to less than 6 months up to more than 20 years. Whilst this relied upon participant self-report, the level of detail asked for within the survey required recall of previous team formulation experience.

No further inclusion and exclusion criteria were applied due to this study requiring a heterogeneous sample (Elliott et al., 1999). Clinical Psychologists working in a range of different clinical settings were required to enable a general understanding and characterisation of team formulation in practice.

2.6.2 Sample size.

At a confidence level of 95%, it is estimated that a sample size of 43 is sufficient for responses within a confidence interval (margin of error) of 15% of the target population. According to a published response to a freedom of information request, the HCPC state that there were 12,705 Clinical Psychologist registrants in January 2018. This figure was used to calculate the sample size estimate. However, there may have been differences between the population and the target sample; not all HCPC registered Clinical Psychologists were members of the targeted recruitment networks and not all registrants would meet inclusion criteria for this study, particularly those who do not

have experience of team formulation in practice. Therefore, the sample size calculation is offered as a guide and its limitations are noted.

2.7 Analysis

2.7.1 Framework Analysis: Description.

Framework Analysis, developed by Ritchie and Smith (1994), is a systematic approach to analysing qualitative data. Framework Analysis requires an *a priori* understanding of the research topic and identification of a specific, predetermined sample which was present for this research. Within this highly-structured approach, the researcher generates a matrix of themes to convey an explanatory account to answer research questions. There are three key components to Framework Analysis (Ritchie, Lewis, Nichols, & Ormaston, 2003):

1. Data management: Developing an index
2. Descriptive Accounts: Synthesising data whilst conveying the range
3. Explanatory Accounts: Interpreting and explaining concepts and themes

Framework Analysis is a common method of analysis in practice-based health research (e.g., McMillen, 2008; Parkinson, Eatough, Holmes, Stapley, & Midgley, 2016) and can inform practice or policy recommendations (Ritchie & Spencer, 1994). Framework Analysis is derived from a combination of deductive coding (using an *a priori* matrix) and inductive analysis to capture additional, emerging ideas.

Inductive and deductive analysis.

Deductive reasoning is the use of theories or existing hypotheses to understand the data and is termed a 'top-down' approach. In the analytical process, deductive approaches entail targeted searches for specific units of data which match existing categories or themes, directly derived from existing knowledge such as theory, hypotheses, and conceptual ideas within research. In this way, a deductive analysis seeks to confirm or disconfirm existing ideas using new data.

Where data go beyond the scope of the existing concepts and categories, an inductive approach can be used. Inductive reasoning is primarily used to make observations about individual responses before considering comparable or contrasting links to other accounts as a way to theorise generalities (and nuances) within the data

set. This is considered a 'bottom-up' approach where establishing descriptions and explanations is the intended aim (Sparkes & Smith, 2014) and themes and phenomena emerge from the data. In the context of the current research, inductive and deductive approaches to data analysis were managed as follows:

Deductive level: Two *a priori* frameworks were generated based on a systematic review of the peer-reviewed team formulation literature (Geach et al., 2017).[40] Frameworks were developed for team formulation function/form and outcome domains. Data were coded to see whether existing categories could be supported. Active attempts to see whether existing categories could be refuted were made by highlighting where there was a lack of data or contradictory data.

Inductive level: Codes that appeared in addition to the existing categories were examined. New categories were developed based on emergent data.

2.7.2 Framework Analysis: Rationale and critique.

The aim of Framework analysis is to "describe and interpret what is happening in a particular setting" (Srivastava & Thomson, 2009, p. 72) which is congruent with this study's aims. The use of Framework Analysis enabled a broader understanding of Team Formulation to provide possible theoretical development. Pragmatically, Framework Analysis is not wedded to a theoretical or epistemological standpoint and can be applied flexibly (Sparkes & Smith, 2014).

Further, it was important to adopt an analytical approach that addressed both within- and between- case comparisons. This research sought to establish a broader theoretical understanding by drawing on a pool of participant accounts. These accounts were grounded in examples of team formulation in practice and, therefore, consideration of the context of each participants account was also important.

Ritchie and Spencer (1994) argue Framework Analysis is driven by the following principles. These provide insight into the suggested strengths of the approach:

- Analysis allows for both between- and within-case comparisons
- Analysis is grounded in the raw data and supported by use of quotations
- A comprehensive and systematic treatment of all data is taken

[40] See Appendix L for two *a priori* frameworks

- Analysis is dynamic and can be refined throughout the analytical process
- Analysis is transparent meaning interpretation and categorisation is visible to those other than the researcher
- Data is presented using a matrix approach enabling an audit trail from the end product back to the raw data

With consideration to this study, the procedural method of analysis offered a pragmatic advantage. Sequential steps undertaking the analysis are suggested to be beneficial for emerging qualitative researchers (Sparkes & Smith, 2014). Further, a systematic, structured analytical approach was required for this project due to the identified issues with divergent and varied team formulation descriptions in the research. This also allows for presenting data in both a tabulated and narrative format to conveys the salient themes of the data and explore areas of variance within these.

Nonetheless, criticisms of Framework Analysis are identified (Gale, Heath, Cameron, Rashid, & Redwood, 2013) as the emphasis on the technical-like procedure which may detract from the interpretation, reflection and conceptualisation required within qualitative analysis. In addition, the stepped-approach (from line-by-line coding to creating the matrix) to analysis requires significant time. This is important to factor into research protocols but often difficult to precisely quantify in advance of the analysis stage.

2.7.3 Comparison to other descriptive qualitative analysis methods.

Framework Analysis shares some features with other existing qualitative analysis methods (Gale et al., 2013). This is unsurprising given qualitative research encompasses a range of approaches and traditions (Sparkes & Smith, 2014). Qualitative research can be understood on a continuum of complexity ranging from descriptive (e.g., Content Analysis) to interpretative (e.g., Discourse Analysis) analysis. This research focused on characterising team formulation in practice and was descriptive in nature, therefore, further consideration is given to descriptive forms of qualitative analysis.

Descriptive qualitative research can offer a coherent and novel understanding of a large body of data to extend current knowledge, create new meanings and inform theoretical understanding (Vaismoradi, Turunen, & Bondas, 2013). A further aim of

descriptive qualitative research is the identification and communication of salient issues within a given topic (Green & Thorogood, 2004).

Three common analysis methods within descriptive research are: Framework Analysis, Thematic Analysis and Content Analysis (Vaismoradi et al., 2013). These approaches share several commonalities which are discussed below.

Content analysis (Hsieh & Shannon, 2005) can take three forms: (a) conventional content analysis – coding categories are created from the research data; (b) summative content analysis – coding categories are derived from keywords within the text; and (c) directed content analysis – coding categories are guided by existing research or theory. Hsieh and Shannon (2005) describe directed content analysis aims to extend and validate an existing framework or theory. Coding is completed in a deductive way, using existing theory to organise and categorise research data. This approach allows for additional categories to emerge – a feature which is comparable to Framework Analysis (Ritchie et al., 2003).

Thematic Analysis (Braun & Clarke, 2006) is a popular method to analyse and interpret qualitative data in terms of themes, patterns and differences across participants. This has been specifically applied to psychology research (Braun & Clarke, 2006).

Each approach is considered as flexible and not wedded to a particular theoretical framework enabling application to a range of topics. Despite this flexibility, each method is based upon a step-by-step approach enabling sequential and transparent analysis. Common steps across the three methods include:

- Familiarisation with data
- Using codes to represent the unit or essence of data
- Piecing codes together to demonstrate relationships and patterns across data
- Generating themes to arrive at a new understanding
- Presenting results in a table or visual format

Because of overlaps in descriptive-qualitative methods, researchers must decide which approach is most suitable for their specific research. In a Hierarchical Content Analysis, the aim is to use order or rank to convey how themes relate to each other

(Hsieh & Shannon, 2005). As this study focused on describing practice across a range of contexts, use of ranking to show themes was not a specific aim and instead, common and unique factors were used to derive a new understanding and to show how themes related to each other.

Thematic Analysis (Braun & Clarke, 2006) is considered more interpretative in comparison to Framework and Content Analysis. A common critique of Thematic analysis is that the flexibility of approach may give rise to unstructured and divergent application limiting rigour and transparency (Smith & Firth, 2010).

In contrast, the unique feature of Framework Analysis, as stated by Gale et al. (2013), is the production of matrices to convey common and varied elements of the data which can be viewed by case and by code. Arguably, Framework Analysis offers a degree of rigour and structure above Thematic Analysis. This is particularly advantageous when there is a need to organise and synthesise large data sets to provide a descriptive overview, as was the case with this research.

2.8 Research Quality

Unlike concepts of validity and reliability, which are used to assess the quality of quantitative research, there are specific steps and strategies which qualitative researchers can take to promote results that are sound, trustworthy, and not merely a product of bias (Noble & Smith, 2015). Guba and Lincoln (1989) formulate quality criteria for qualitative research: credibility, transferability, dependability, and confirmability.

2.8.1 Credibility.

Credibility refers to the degree to which: (1) the research process can be documented, tracked, and audited; and (2) this process reveals a logical and consistent approach to data analysis. Transparency was enhanced through using verbatim quotations from participant response and the main framework components were illustrated using examples from raw data. Further, this research benefitted from following the stepped approach to undertaking Framework Analysis (Ritchie & Spencer, 1994). One of the identified strengths of this approach is the transparency in the process from raw data to the presentation of the framework tables (Gale et al., 2013). This was aided by using participant identifiers to demonstrate links to individual

cases. Discussing the coherence of Frameworks with research supervisors, from their development through to the final matrices, formed credibility checking throughout the analysis process. There were frequent and thorough discussions regarding the coding process to ensure coding was reasonable and justifiable.

Member checking, the process of returning analysed results to participants for (dis)confirmation or amendment, is suggested to enhance credibility (Birt, Scott, Cavers, Campbell, & Walter, 2016). However, Thomas (2017) states member checking is of little value to research aiming to provide a theoretical understanding of a topic as generalisable concepts are the focus over individual perspectives. As such, member checking was considered but discounted due to this study being a theoretical, descriptive study and less focused on the interpretation of individual narratives.

2.8.2 Confirmability.

Confirmability refers to the degree to which interpretations cohere with the raw data and are not a product of the researcher bias. The reader should be assured the logic used to arrive at the interpretation is sound and balanced. Steps towards confirmability can be made when research bias is made explicit to enable the reader to decide how well this has been managed during data analysis (see section 2.2 for the author's position).

2.8.3 Transferability.

Relevant features of the sample and their personal and professional characteristics were described including age, gender, variations in team formulation experience and clinical setting in which team formulation was practiced. Alongside this, quotations from participant examples of practice were provided to allow for further description and contextualisation of the themes presented. These two features may serve to aid readers' evaluation of whether the results of this study are fitting to their own experience and to what degree they may transfer to the reader's own context.

2.8.4. Dependability.

Dependability is synonymous with research consistency and accuracy (Sparkes & Smith, 2014). This can be demonstrated through the use of an audit trail to trace results to raw data. Within this study, participant references were provided within the matrices for Aims 2 and 3. This sought to convey the number and range of participants

who endorsed each theme within the matrix, allowing the reader to judge for themselves how consistently across participants the theme emerged.

Further, research supervision from two research/academic tutors (and Clinical Psychologists) was utilised throughout the process of the study on at least a monthly basis. All stages of the research were discussed and checked. Supervision functioned to enable questioning of inferences made and suggestions of alternative interpretations during analysis. All framework matrices were discussed with supervisors who were experienced in doctoral-level qualitative research.

In addition, dependability is enhanced through "meticulous record keeping, demonstrating a clear decision trail and ensuring interpretations of data are consistent and transparent" (Noble & Smith, 2015, p.35). Each stage of the analysis, including the initial framework and indexing, was approached in a systematic manner. Individual responses were coded (within-case) before indexing by theme occurred (between cases). A document was created for each stage, where codes were tagged to raw data to allow for understanding of how the final matrices were developed. During indexing and charting, participant references were retained within themes to allow for tracing back to the original data source. An example is appended within this thesis.[41]

Some argue that data complexity is reduced in categorisation methods such as Framework Analysis and that this may lose the individuality of participant experience in favour of trends across data. Noble and Smith (2015) highlight that searches for both similar and unique features across participants ensures the range of perspectives are reflected in the analysis. During analysis, attention was paid to the anomalies and unique cases that emerged within the data. An additional challenge is that removing sections of data to embed within frameworks means that quotations are separated from their original context and can appear disconnected from the participant's story or account (Sparkes & Smith, 2014). Consideration was given to this challenge in the current study by referencing the participants' work context in framework matrices and expanding on context where possible within the narrative account of the results.

[41] See Appendix M for a worked, coded example

Extended Results

3.0 Overview

This section will detail supplementary data not included in the journal paper. These include: comparison of the sample who completed the survey and those who did not, further team formulation types and general team formulation questions to answer aim 1 and additional quantitative ratings to answer aim 2.

3.1 Comparison of the total sample and non-completers

A total of 120 people accessed the survey. Of these, four were test responses which were not included (3%), 16 (13%) clicked on the opening page only, 34 (28%) partially completed the survey, and 66 (55%) completed the survey. Of the 66 completers, 49 (41%) participants provided full, detailed examples of team formulation practice. There were no requests from participants to have responses withdrawn.

Table 19 provides a comparison of the descriptive characteristics of the total sample (N=66) compared to sub-groups of the sample and those who did not complete the survey (n=34). There appeared to be slightly more female (85%) and AMH psychologists (38%) who did not complete the survey compared to the sample (77% and 27% respectively).

Table 19.

Comparisons of characterises of the sample and non-completers

	Total Sample (N = 66)		Successful Example (n=49)[1]		Unsuccessful Example (n=32)		Non-completers (n=34)	
	Count	**%**	**Count**	**%**	**Count**	**%**	**Count**	**% (valid)[2]**
Female	51	77.3	38	77.6	24	75.0	29	85.3
Age (Years)								
24-30	5	7.6	5	10.2	3	9.4	0	5.9
31-40	34	51.5	23	46.9	18	56.3	13	38.2
41-50	18	27.3	14	28.6	7	21.9	16	47.1
51-60	7	10.6	5	10.2	2	6.3	3	8.8
61-70	2	3.0	2	4.1	2	6.3	0	0
Years qualified as a Clinical Psychologist								
0 to <5	26	39.4	18	36.7	13	40.6	13	38.2
5 to <10	13	19.7	9	18.4	6	18.8	4	11.8
10 to <20	18	27.3	15	30.6	10	31.3	13	38.2
20 to <30	6	9.1	4	8.2	1	3.1	3	8.8
30 to <40	3	4.6	3	6.1	2	6.3	1	2.9

Table 19.

Comparisons of characterises of the sample and non-completers

	Total Sample (N = 66)		Successful Example (n=49)[1]		Unsuccessful Example (n=32)		Non-completers (n=34)	
	Count	**%**	**Count**	**%**	**Count**	**%**	**Count**	**% (valid)[2]**
Team Formulation Experience (Years)								
3 to <6 months	2	3.0	1	2.0	0	0.0	4	3.4
6 to <12 months	5	7.6	3	6.1	2	6.3	1	13.8
1 to <2	12	18.2	6	12.2	4	12.5	1	6.9
2 to <3	8	12.1	7	14.3	5	15.6	5	17.2
3 to <5	14	21.2	12	24.5	9	28.1	5	17.2
5 to <10	15	22.7	11	22.4	8	25.0	7	10.3
10 to <15	4	6.1	4	8.2	2	6.3	4	24.1
15 to <20	3	4.6	3	6.1	1	3.1	2	3.4
<20	3	4.6	2	4.1	1	3.1	0	3.4
Training in Team Formulation								
Yes	33	50.0	20	40.8	15	46.9	14	48.3
Unsure	6	9.1	5	10.2	2	6.3	2	6.9
No	30	40.9	24	49.0	15	46.9	13	44.8

Table 19.

Comparisons of characterises of the sample and non-completers

	Total Sample (N = 66)		**Successful Example (n=49)[1]**		**Unsuccessful Example (n=32)**		**Non-completers (n=34)**	
	Count	**%**	**Count**	**%**	**Count**	**%**	**Count**	**% (valid)[2]**
Population								
Adult mental health	18	27.3	14	28.6	11	34.4	13	38.2
Intellectual/developmental disability	13	19.7	10	20.4	6	18.8	7	20.6
Older adults	10	15.2	09	18.4	7	21.9	4	11.8
Children and adolescents	11	16.7	06	12.2	4	12.5	4	11.8
Forensic/offender health	8	12.1	06	12.2	1	3.1	2	5.9
Physical health psychology	3	4.5	02	4.1	1	3.1	3	8.8
Neuropsychology	3	4.5	02	4.1	2	6.3	1	2.9
Sector								
NHS	61	92.4	44	89.8	28	87.5	33	97.1
Independent provider	2	3.0	2	4.1	1	3.1	1	2.9
Other[3]	3	4.5	3	6.1	3	9.4	0	0

Table 19.

Comparisons of characterises of the sample and non-completers

	Total Sample (N = 66)		**Successful Example (n=49)[1]**		**Unsuccessful Example (n=32)**		**Non-completers (n=34)**	
	Count	**%**	**Count**	**%**	**Count**	**%**	**Count**	**% (valid)[2]**
Setting[4]								
Community	29	40.3	20	35.7	13	34.2	14	41.2
Outpatient/clinic	4	5.6	2	3.6	0	0.0	1	2.9
Outreach/liaison	3	4.2	3	5.4	2	5.3	0	0
Inpatient	26	36.1	24	42.9	20	52.6	10	29.4
Inpatient secure forensic	6	8.3	5	8.9	1	2.6	2	5.9
Other[5]	4	5.6	2	3.6	2	5.3	6	8.8

Note. [1]n = subgroup of the sample, [2]Some participants withdrew before completing all demographic questions, [3]Other = NHS and independent provider, NHS and Charity, Social Care Team, [4]Participants could select more than one option, [5]Other = Children Looked After Social Care Team, Offender Health, Liaison and unspecified.

Table 20 shows most participants in the total sample were recruited via Facebook (29%) and through affiliation to Doctorate in Clinical Psychology training courses (23%). Further, participants most frequently endorsed constructivist (35%), pragmatist (32%), and interpretivist (17%) philosophical positions.

Table 20.

Characteristics of the sample (N=66)

Recruitment Source	**Percentage**	**Count**
Facebook	28.8	19
Doctorate in Clinical Psychology course affiliation	22.7	15
From another potential participant	13.6	9
DCP Faculty affiliation	13.6	9
Other	13.6	9
Twitter	7.6	5
Philosophical Position		
Constructivism	34.9	23
Pragmatism	31.8	21
Interpretivism	16.7	11
Positivism	6.1	4
Unsure	6.1	4
Critical realism	3.0	2
Other	1.5	1

3.2 Aim 1: Characterising Team Formulation

3.2.1 General team formulation questions.

In response to when team formulation was implemented in the service, 88% (n=58) of respondents said that team formulation was variably implemented and 12% (n=8) stated that this was standardised.

Table 21 shows responses to the question asking who could decide upon the need for a team formulation. In almost half of cases (n=30), this was any professional

within the team and in roughly a quarter of cases (n=15), this decision was made by the Clinical Psychologist. Less frequently, the need was identified through team discussion (n=8) or by consulting the service user (n=1). Team formulation was practiced as standard in three cases.

Table 21 also provides data on team formulation frequency. A third of participants (n=22) reported practicing weekly team formulation and a quarter (n=16) reported fortnightly use of team formulation. Fewer (n=12) participants used monthly sessions or variable (n=13) frequencies. Two participants used team formulation more than weekly (as they included informal requests within responses).

Table 21.

Team formulation general characterisation (N=66)

	Count	**Percentage**
Who decides on the need for team formulation		
Any professional within the team	30	45.5
Clinical psychologist	15	22.7
Lead or key professional	9	13.6
Through team discussion	8	12.1
Standard for all service users	3	4.5
Psychologist with service user involvement	1	1.5
Team formulation frequency		
Weekly	22	33.0
Fortnightly	16	24.2
Variable	13	19.7
Monthly	12	18.2
Other	3	4.5

Note. Other = Every six months (n=1), and more than weekly when including consultation (n=2)

3.2.2 Additional team formulation types.

Table 22 reports on the details of the participants who were included under each team formulation types in terms of the service context and the participant's experience of team formulation.

Table 23 provides an overview of the three additional team formulation types: (1) consultation approach; (2) solution-focused approach; and (3) staff emotional support. These are discussed in turn.

Consultation-based formulation.

Five examples were included in the consultation approach. Four participants used examples from inpatient settings (AMH, Older Adult and IDD) and one Looked After Children service. Two participants had less than a year of team formulation experience, two participants had 2-5 years, and one participant had over 10 years of experience. This team formulation type aimed to understand how the service could improve the quality of the work with the service user. Notably, this approach was used with cases considered complex and with multiple agency involvement.

A structured approach to facilitation was reported where participants led the session using a series of steps. These included clarifying the problems, explaining these using theory, identifying strengths and resources, and generating intervention ideas either within or outside the team. Part of the consultation structure was the Clinical Psychologist documentation of the formulation product and one participant (P56) explained this was important for assuring the accuracy of records.

Most participants (P16, P56, P20, P54) described using a systematic procedure for the session. One participant (P39) reported a less formal approach and encouraged team members to generate hypotheses with *"emphasis on the idea that these were attempts to make meaning."*

Participants used integrative models encompassing cognitive and relational components. Common formulation features were highlighted as core beliefs, behavioural patterns, and the responses of others. This approach enabled identification of problem areas as well as an exploration of the person's protective factors (e.g. social supports [P54, P39, P56], recovery focus [P16], and strengths [P20]). Following this, the facilitator provided suggestions for practice which included direct intervention (P54, P56, P20) and implications for family and other services (P39).

In terms of outcomes, four participants identified that the service user was more enabled through changes made to their care such as being given more autonomy over care-based decisions (P16), provision of direct work (P56), positive behaviour support

plans (P54), and creative coping strategies (P39). Staff teams were observed as more confident in their approach to working with the person (P54, P20, P16, P56, P39), and more empathic (P54, P56, P20). Team formulation was considered important for informing change beyond the session e.g. when working with similar clients in the future (P20), general team psychological mindedness (P54), and sharing the formulation with other services (P39).

Solution-focused formulation.

Three examples from community services (two AMH and one child and adolescent mental health service; CAMHS) were categorised as Solution-Focused approaches to team formulation. One participant had less than six months of team formulation experience, one had 3-5 years and the third had over 15 years of experience and had been qualified for over 20 years. This type of team formulation appeared to answer the question: What do I do next/differently with this case? The function of this approach was to generate hypotheses and solutions to a case where the professional(s) felt "stuck." One participant (P27) used the session to generate team support for decisions regarding risk.

The Clinical Psychologists' role was varied and included: (1) case holder, presenting case material to the rest of the team; (2) co-facilitator with a family therapist and; (3) facilitator summarising verbal information on large paper. One participant (P27) used "*collaboration and Socratic questioning"* but then *"gave way to the team once they got into the process"* reflecting the Solution-Focused principle that solutions are held by those who also hold problems.

One participant (P18) employed the Solution-Focused Reflective Practice model (a structured, timed procedure allowing dialogue between the case holder and team) and two used the Five P's model (Padesky & Mooney, 1990) to structure the discussion but were also guided by team member's contributions. Unlike other types of team formulation, participants described how the onus was on one professional to present case material to the rest of the team. As team members became immersed in discussing the details of the case, this allowed the Clinical Psychologist to organise the emerging information into the formulation structure.

A further key feature appeared to be the team members as drivers of change. Congruent with the Solution-Focused approach, questions and reflections were used to deepen understanding of the material and morph the case description into an explanatory formulation. In this way, the team acted as a sounding board to broaden the case holder's perspective on the clinical material. Further, additional/missing information was highlighted in two examples (P27, P41) as a result of the team formulation. In keeping with the principles of Solution-Focused approaches, an action plan based upon the identified solutions was generated at the end of the session to meet the intended aim.

There were few reported outcomes for the service user and instead, respondents reported change for the case holder who was observed to feel less anxious (P27) or have a broader understanding of the work (P18 and 41). However, respondents also reported changes were inconsistently implemented (P41) or did not occur in practice (P27).

Staff emotional support.

Two examples categorised as staff emotional support were from an adult inpatient unit and an older adult community service. Both participants had been qualified for more than six years and reported practicing team formulation for more than two years. This team formulation approach was used when the team experienced a service user's presentation as emotionally challenging. The purpose of team formulation was to understand service user and staff emotional experiences with a view to managing the emotional demands of the work.

Team formulation was depicted as a 'conversation' where team members contributed on an ad-hoc basis. One possible reason for this naturalistic approach might have been to foster a sense of safety to enable personal reflections and staff disclosure of difficult experiences. Both participants reported using Attachment Theory to understand a team's experience of service users perceived as 'demanding' and 'unreasonable.'

Sharing and identifying common experiences amongst the team was reported. Staff disclosed strong, negative feelings such as *"fed up, drained"* (P21 1C) and *"stressed"* and *frustrated"* (P62). The formulation then appeared to facilitate emotional change through turning towards and explaining the source of distress. In one example

(P62), a hypothesis about why the service user oscillated between rejecting and seeking team support was perceived to reduce frustration.

Following the formulation, the community team (P62) prioritised engagement so the service user *"felt safe in working with us."* The team also identified the need to *"continue to support each other."* Likewise, the inpatient team acknowledged *"how difficult it had been for all staff to consistently hold this client in mind"* with a view to*" increasing a sense of connection"* with the young person (P21).

The perceived changes were described as increased service user involvement in care discussions and receiving consistent and supportive communication from the team. The inpatient service user was considered to have improved mood and the community team were claimed to feel less distressed about the service user's risk. There were suggestions from both participants that this team formulation left staff teams more accepting of the work required to engage the service user.

Table 22.
Team formulation typology by participant (N=66)

Team Formulation Type	N	Participants	Clinical Psychology Experience (years qualified)	Team Formulation Experience (years)
Case review	5	P02 IDD Community	11 to 20	1 to <2
		P30 AMH Community	6 to 10	3 to <5
		P31 CAMHS Inpatient	11 to 20	3 to <5
		P60 Forensic IDD Inpatient	31 to 40	20+
		P66 Forensic Inpatient	0 to 5	6 to <12 months
Formulation challenging behaviour	11	P52 IDD Community	11 to 20	5 to <10
		P64 IDD Community	0 to 5	3 to <5
		P45 IDD Community	11 to 20	5 to <10
		P61 Forensic IDD Inpatient	31 to 40	5 to <10
		P13 IDD Inpatient	11 to 20	10 to <15
		P48 IDD Inpatient & Community	0 to 5	5 to <10
		P33 Neuropsychology inpatient	0 to 5	3 to <5
		P34 Older Adult Community	0 to 5	3 to <5
		P49 Older Adult Inpatient	21 to 30	5 to <10
		P10 Older Adult Inpatient	0 to 5	1 to <2
		P43 Older Adult Inpatient	11 to 20	5 to <10

Table 22.
Team formulation typology by participant (N=66)

Team Formulation Type	**N**	**Participants**	**Clinical Psychology Experience (years qualified)**	**Team Formulation Experience (years)**
Formulating the staff-service user relationship	11	P17 AMH Community	31 to 40	15 to <20
		P59 AMH Community	21 to 30	20+
		P28 AMH Inpatient	11 to 20	3 to <5
		P04 AMH Inpatient	0 to 5	1 to <2
		P46 AMH Inpatient	6 to 10	5 to <10
		P07 AMH Inpatient	6 to 10	1 to < 2
		P47 Older Adult Inpatient	6 to 10	5 to <10
		P23 CAMHS Inpatient	0 to 5	2 to <3
		P24 CAMHS Community	0 to 5	2 to <3
		P36 Physical Health Inpatient & Outpatient	11 to 20	3 to <5
		P38 IDD Community	6 to 10	3 to <5
Formulating in partnership with the service user	6	P01 Forensic Inpatient	0 to 5	1 to <2
		P14 Neuropsychology Community	11 to 20	10 to <15
		P65 Forensic Offender Health	0 to 5	2 to <3
		P15 Older Adult Inpatient	11 to 20	10 to <15
		P25 Older Adult Inpatient	0 to 5	3 to <5
		P25 AMH Inpatient	0 to 5	2 to <3

Table 22.
Team formulation typology by participant (N=66)

Team Formulation Type	N	Participants	Clinical Psychology Experience (years qualified)	Team Formulation Experience (years)
Emotional Support	2	P21 CAMHS Inpatient	6 to 10	2 to <3
		P62 Older Adult Community	6 to 10	5 to <10
Consultation	5	P54 IDD Inpatient	0 to 5	6 to <12 months
		P20 AMH Inpatient	11 to 20	2 to <3
		P39 AMH Inpatient	0 to 5	3 to <5
		P16 Older Adult Inpatient	11 to 20	10 to <15
		P56 CAMHS Community	0 to 5	6 to <12 months
Solution-Focused	3	P27 AMH Community	0 to 5	3 to <5
		P21 AMH Community	0 to 5	3 to 6 months
		P18 CAMHS Community	21 to 30	15 to <20
Uncategorised	6	P05 IDD Outpatient	11 to 20	1 to <2
		P63 AMH Inpatient	6 to 10	5 to <10
		P37 AMH Inpatient	6 to 10	3 to <5
		P26 IDD Forensic Inpatient	11 to 20	2 to <3
		P19 Physical Health Outpatient	21 to 30	15 to <20
		P51 Forensic Community	11 to 20	5 to <10

Note. N: Number; AMH: Adult mental health; CAMHS: Child and adolescent mental health service; IDD: Intellectual/ developmental disability.

Table 23.

Additional team formulation types

Function	Facilitation	Features	Target of Change	Reported Outcomes
Consultation approach (n=5). To consider how the service can improve the quality of the work with the SU *"Increase psychological understanding of a SU and ways of working with them"* (P20 1A)	Structured facilitation, leading as an expert *"Formulation follows a structured process where the psychologist asks particular questions"* (P16 1O)	• Information is documented in an accessible format (5) • Strengths/resources discussed (5) • Problem areas clarified (4) • Recommendations for practice (4) • Systematic procedure (4) *"Information was captured using a written summary that was verbally agreed by the group"* (P39 1A) *"We then focus on positives, strengths"* (P20 1A) *"Ensured everyone was clear about what the team is here to discuss"* (P56 2C) *"Facilitator linking it back to psychological theory, practical implications"* (P54 1I)	Structured use of models (e.g., Integrative and CBT) to address complex problems Generating intervention ideas *"Used Lake model of team formulation"* (P54 1I) *"Sharing & exploring ideas for moving forward"* (P20 1A)	**SU:** More enabling care approach (4) **Staff:** Increased confidence in intervention approach (5), increased empathy (3) **Service:** Addressing challenges enabled support beyond the session (3) *"Patient was given more independence and autonomy"* (P16 1O) ***"****Feeling more like [the team] have a plan and a strategy"* (P56 2C) ***"****Ideas arose for changes we need to make to the service to support each other…when working with clients with similar presentations"* (P20 1A)

Table 23.

Additional team formulation types

Function	Facilitation	Features	Target of Change	Reported Outcomes
Solution Focused (n=3) To generate hypotheses and solutions where professionals feel 'stuck' *"When stuck working with a family, aiming to generate alternative hypotheses"* (P18 2C)	Clinical Psychologist as a case holder or facilitator *"I co-led the questions with the family therapist"* (P27 2A)	• Case holder presents the case to the team (2) • Clinical Psychologist organises information into the formulation (2) • Facilitating questions and reflection to deepen understanding (3) • Highlighting missing information (2) • Action plan/solutions (3) *"I suggested a basic 5Ps structure… The worker started giving details and I wrote under the headings as she spoke"* (P27 2A) *"Case holder reflections on what has been heard"* (P18 2C) *"Question marks started appearing and were signifiers for her to seek more information"* (P27 2A) *"Action plan was summarised"* (P41 2A)	'Five Ps' and solution-focused model Team discussion broadens the case holder's perspective *"Other people asked questions and got her thinking about details… It gave the worker a 'to do' list of actions"* (P27 2A) *"…shared ideas… and practice-based support to develop ideas around the work*" (P18 2C)	**Staff:** Case holder: reduced anxiety (1), increased understanding (2) **Service:** Inconsistent approach to changes in practice (2) *"The worker could take that new calm to the system she was working with and feel more confident and directive"* (P27 2A) "*Some changes in how boundaries were to be managed in relationships, although not always followed by individual staff members*" (P41 2A) *"Depended on who was present and their personal attitude towards psychologists"* (P27 2A)

Table 23.

Additional team formulation types

Function	Facilitation	Features	Target of Change	Reported Outcomes
Emotion-focused (n=2) To understand SU and staff emotional experiences with a view to managing the emotional demands of the work *"…understand client and staff emotional experiences"* (P21 1C)	Conversational approach to sharing reflections *"This was not structured but flowed like a normal conversation"* (P62 2O)	• Guided by attachment theory (2) • Engaging with distress (2) • Staff communicate emotional experiences (2) • Explaining the source of SU (and team's) distress (2) *"We drew on attachment theory to think about how early relationships had set up expectations and needs for certain interactions"* (P21 1C) *"Offering my colleagues a way of understanding this patient's behaviour in attachment terms helped reduce their frustration with him"* (P62 2O)	Aiming to reduce emotional distress and increase emotional connectedness with the SU and within the team *"…Increase a sense of connection for all involved"* (P21 1C) *"Sharing our experience of the stress of 'holding the risk' was supportive for us all… we needed to…continue to support each other"* (P62 2O)	**SU:** Increased involvement in discussions about care, improved mood **Staff:** Consistent and supportive communication, reduction in distress about managing risk **Service:** More accepting and engaging approach to SU care *"Staff's views of client shifted to being more empathic and enthusiastic about interacting with her"* (P21 1C) *"Accepting he would be present on our caseload lists…for the long-term"* (P62 2O)

Note. 1: Inpatient; 2: Community; 3: Outpatient; 4: Liaison/outreach; A: Adult mental health; C: Child and adolescent; F: Forensic; I: Intellectual/developmental disability; N: Neuropsychology; O: Older adult; P: Physical health; SU: Service user; CBT: Cognitive behavioural therapy.

3.3. Aim 2: How do Clinical Psychologists Evaluate Team Formulation

Answers provided below are for the full (N=66) sample and are summarised in Table 24.

3.3.1 Full sample responses to evaluation question.

Do Clinical Psychologists evaluate team formulation in practice?

Of 66 participants to complete this question, ten (15%) reported no evaluation occurred. A further 22 (33%) participants reported they did not use any formal methods/measures to evaluate team formulation. Ten of these participants did describe informal measures they considered evaluative of their team formulation practice.

Forty-four (67%) respondents described some form of evaluation, although, 14 accounts are considered with caution. Three of the 44 participants provided future (rather than past or current) evaluation plans (P2, P4, P46), three participants (P7, P14, P58) stated evaluation methods were measures of general service provision and not specific to team formulation, and the link between the target of the outcome and team formulation was unclear in eight participants' responses (P9, P13, P33, P45, P47, P53, P60, P64). As such, some form of team formulation evaluation occurred in around 30 (46%) responses. However, the degree to which reported evaluations can be said to be a sound measure of team formulation processes is discussed below.

How do Clinical Psychologists evaluate team formulation in practice?

Based on 44 participants, there were a total of 66 reports of evaluation measures/methods, which ranged from 0-4 per participant with a mean and modal response of one per person. Descriptions included a range of information regarding outcome domains (distinct area under evaluation), methods (means of gathering data) and specific measures (evaluation tool). Data were categorised into three levels: (1) Service-level indicators; (2) Team formulation indicators (quality, perceived effectiveness and staff experience); and (3) Service user-level indicators.

Service level indicators.

Six participants provided seven examples of evaluating care provision. Change was measured through service-specific methods (e.g., CPA reviews, record audits, length of admission, feedback upon discharge). However, connections to team formulation processes were unclear in four responses and were not the target of evaluation in two reports:

"We evaluate treatment not formulation" (P58)

"We ask SU to complete feedback upon discharge and they may comment upon it [team formulation] here but they are not specifically asked" (P7).

One participant appeared to link the evaluation temporally to team formulation occurrence, although specific team formulation processes that might impact on admission length were not highlighted:

"The overall impact of introducing formulation was evaluated using quality of care and length of stay data" (P4).

Team formulation indicators.

Thirty-three participants provided 46 examples of team formulation outcome indicators. There were five references which were categorised as evaluation of team formulation quality. Clinical Psychologists typically evaluated team formulation on a case-by-case basis within the session (observing process) and after the session (reflecting on cases or discussing team formulation facilitation issues in supervision). These reports appeared informal and unstructured which limits the reliability and validity of evaluation. Two indicators were specific to the formulation 'product' (via audit and based on informal feedback), although, the standards under audit were not reported meaning it is unclear how audit might improve future team formulation practice.

Ten reports were considered evaluation of team formulation perceived effectiveness. Self-report questionnaires to capture change in staff beliefs about the nature of problems and their controllability were reported by two respondents. Attending to changes in staff language was described by three participants, although, this appeared to be based on participant views from overhearing conversations. Rather than evaluating the session, five participants described the intervention plan arising from team formulation (captured through staff meetings, record reviews and informal observation) was the target of evaluation:

"The development of an intervention plan that is meaningful and comprehensive, are used to measure practice and are indirectly linked to this [team formulation] process" (P39).

"To consider reviewing notes for indications of impact on client e.g. whether formulation informs new care plans and how successful they are" (P46).

The staff experience of team formulation was the most frequently reported outcome supported by 31 references. Of the ten participants using questionnaire methods, six used their own tool developed within the service, meaning the exact variables that may contribute to success staff experience remain unknown:

"Used my own one-page purpose designed feedback form & scales" (P20).

The most frequently reported method for capturing staff views was ad-hoc self-report. Verbal feedback at the end of team formulation sessions was reported by five participants. A further eight participants did not detail how staff views were ascertained. In contrast, four respondents used dedicated forums to capture staff views (survey, focus group, staff meeting without the facilitator) as well as four individuals citing a published measure of perceived team formulation helpfulness (Hollingworth & Johnstone, 2014). Two services identified specific sessional measures to capture staff views: a community forensic CAMHS service measured supervisory alliance and a community AMH team captured the referrer's satisfaction. Staff attendance to team formulation sessions was formally audited in one example and considered as an indicator of team formulation success in a second example based upon the facilitator's view that sessions were 'well' attended (P66).

Service user indicators.

Of the 13 references to service user indicators, five participants reported use of standardised psychometric measures of problem severity and functioning. Three further respondents used goal attainment scaling:

"We use a goal attainment measure; at the assessment, the person, their carer and the staff involved are asked to identify at most 2 goals each for the piece of work. We then revisit the goals at the end of the work to see whether we have achieved what was identified" (P45).

One participant used the action plan to evaluate team formulation based upon the service user's sense of mastery:

"Individual formulations are evaluated according to whether the service user is confident that they can achieve the goals that have been agreed using the action plan that has been developed" (P49).

The suitability of service user problem measures and goal attainment is questionable. The chosen measures would need to reflect the targets of change identified within the team

formulation in order to be a sensitive evaluation tool for team formulation. This issue was not discussed within participant reports. Two services referred to the use of incident data, although, it was unclear how such information was used to measure change or was linked to the team formulation.

"Behaviour change in person through incident monitoring" (P48)

Two participants used feedback directly from the service user to evaluate team formulation; it was unknown whether this was through a formal, standardised process or not:

"Feedback direct from patients - asked people to let us know how they found using the formulation 5P template as a way of capturing difficulties" (P15).

Comparison to a priori Framework.

The majority of evaluation approaches emerged outside of the *a priori* framework. Five items from the *a priori* framework were found amongst responses from the sample. These were: service-developed questionnaires about team formulation sessions, questionnaires capturing staff attitudes towards the presenting problem, measures of service user problem severity, idiosyncratic behaviour measures, and length of inpatient admission. This suggests there are range of evaluation approaches occurring in practice which are not featured in the extant literature, however, as previously noted, the extent to which such measures capture team formulation factors (rather than confounding variables) is unclear.

Table 24.

Reported team formulation evaluation methods (N=66)

Indicator	Evaluation Method or Measure	Participant
Service Level Indicators (5)		
Evaluation of care provision	Audit/review of records	P47 16O SS, P60 1FI CR
	Advocacy/service user feedback on general inpatient experience	P60 1FI CR, P71A SS
	Length of inpatient stay†	P491O BH
Team Formulation Indicators (11)		
Perceived formulation quality	Annual audit of risk formulation quality	P30 2A CR
	Staff or service user perceive need to amend formulation	P01 1F PR
	Clinical Psychologist observations of process of sessions†	P62 2O ES
	Clinical Psychologist supervision discussions	P17 2A SS
Perceived effectiveness		
Staff attitude	Staff perceptions about presenting problems (IPQ)†	P04 1A SS
Staff language	Clinical Psychologist observations of change in staff language	P48 12I BH, P59 2A SS
Changes to care	Clinical Psychologist observations of changes to staff practice	P59 2A SS
	Evaluation of formulation plan through staff support sessions	P36 13P SS
	Evaluation of change to practice through review of records	P46 12A SS
	Development of meaningful and comprehensive intervention plan	P39 1A CO

Table 24.

Reported team formulation evaluation methods (N=66)

Indicator	Evaluation Method or Measure	Participant
Staff experience		
Staff satisfaction	Service-developed questionnaire†	P20 1A CO, P15 12O PR P48 12I BH
	Staff rated session helpfulness (Team Formulation Helpfulness Questionnaire)	P46 12A SS, P25 1AO PR P02 2I CR, P55 2A NA
Staff attendance	Audit: role, service area and professional background	P15 12O PR
	Clinical Psychologist observations of attendance	P66 1F CR
Staff feedback	Focus group	P31 1C CR, P15 12O PR
	Staff meeting without psychology presence	P251AO PR
	Online survey	P41 2A SF
	Service evaluation (unspecified)	P55 2A NA
	Informal feedback from staff to facilitator	P21 1C ES, P30 2A CR P66 1F CR, P61 1FI BH P52 12A BH, P28 1A SS P23 1C SS, P46 12A SS P24 5C SS, P37 1A NA

Table 24.

Reported team formulation evaluation methods (N=66)

Indicator	Evaluation Method or Measure	Participant
Service User Indicators (13)		
Problem severity†	Social integration (CIQ) and mood (DASS) measures	P14 2N PR
	Idiosyncratic behaviour measure†	P48 12I BH, P13 1I BH
	Observed aggression (OAS), unspecified mood and quality of life measures	P33 1PN BH
	Overall functioning and problem severity (HoNOS-LD)	P64 2I BH
Goal attainment	Goal attainment scaling	P14 2N PR, P45 2I BH P64 2I BH
	Service user confidence to achieve goals	P49 1O BH
Service user risk	Incident and behavioural observational data	P61 1FI BH, P48 12I BH
Service user feedback	Feedback from service user about using 'Five Ps' template	P15 12O PR
	Unspecified	P61 1FI BH
No Evaluation (25)		
	No evaluation reported	P16 16O CO, P27 2A SF P18 2C SF, P65 3A PR P51 2F NA, P05 3I NA
	No formal evaluation reported	P60 1FI CR, P66 1F CR P39 1A CO, P54 1I CO

Table 24.

Reported team formulation evaluation methods (N=66)

Indicator	Evaluation Method or Measure	Participant
		P43 1O BH, P10 16O BH
		P34 2O BH, P07 1A SS
		P46 12A SS, P36 13P SS
		P38 2I SS, P17 2A SS
		P56 2C CO, P35 1O PR
		P21 1C ES, P62 2O ES
		P19 3P NA, P63 1FA NA
		P26 1I NA

Note. 1: Inpatient; 2: Community; 3: Outpatient; 4: Liaison/outreach; A: Adult mental health; C: Child and adolescent; F: Forensic; I: Intellectual/developmental disability; N: Neuropsychology; O: Older adult; P: Physical health; BH: Formulating behaviour experienced as challenging; SS: Formulating the staff-service user relationship; CR: Case review; PR: Formulating with the service user perspective; ES: Emotional support; SF: Solution-focused; CS: Consultation-based team formulation; NA: not categorised into a type; IPQ: Illness Perception Questionnaire (Weinman et al., 1996); Team Formulation Helpfulness questionnaire (Hollingworth & Johnstone, 2014); CIQ: Community Integration Questionnaire (Dijkers, 2011); DASS: Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995); OAS: Overt Aggression Scale (Yudofsky, Silver, Jackson, Endicott, & Williams, 1986); HoNOS-LD: Health of the Nation Outcome Scale-Learning Disabilities (Roy, Matthews, Clifford, Fowler, & Martin, 2002); 'Five Ps' formulation (Padesky & Mooney, 1990).

† denotes outcome from *a priori* framework

3.3.2 Outcomes ratings.

Table 25 shows that the benefits described by the DCP (2011) were largely identified by participants as reflective of current practice. Of 17 benefits, 15 were most commonly rated as frequent occurrences in participant's own team formulation practice. 'Gathering key information in one place' was the only benefit most commonly rated as occurring in all team formulation cases. 'Facilitating culture change in teams and organisations' was rated by over half (56%) of the sample as occurring only sometimes.

Moving to the nine outcomes reported in a review of the literature (Geach et al., 2017), participants rated six of these as occurring frequently in their own practice. Further, 'reduced service user symptoms' and 'improved service user's perspective of their relationship with staff' were items rated as occurring sometimes by around half of the sample (54% and 56% respectively). The outcome 'worsened staff perspective of their relationship with the service user,' originally reported by Berry et al., (2015), was not recognised by most participants, with 54% rating this as a rare outcome and 27% stating this never occurred.

Participants reported the indicators conveyed in the literature generally mirror their own experience of change in practice, yet, such outcomes may not necessarily be formally measured by Clinical Psychologists when evaluating team formulation practice. Some of the DCP (2011) benefits listed may refer to in-session processes rather than measurable outcomes which may explain why these did not appear to feature in the qualitative evaluation reports. For example, 'drawing on and valuing the expertise of all team members' did emerge in participant descriptions of examples from practice as both a common, helpful factor and a specific feature of the Case Review type of team formulation. This suggests participants were aware of the presence of this benefit but had perhaps not considered this as an evaluation target.

Table 25.

Participant (N=66) ratings of outcomes reported by the Division of Clinical Psychology (2015) and Geach et al. (2017)

	Always	**Frequently**	**Sometimes**	**Rarely**	**Never**
Division of Clinical Psychology (2015) benefits					
Gathering key information in one place	52.4	39.7	7.9	0.0	0.0
Supporting each other with service users who are perceived as complex and challenging	39.7	55.6	4.8	0.0	0.0
Drawing on and valuing the expertise of all team members	36.5	54.0	6.4	3.2	0.0
Generating new ways of thinking	28.6	57.1	14.3	0.0	0.0
Increasing team understanding, empathy and reflectiveness	23.8	61.9	12.7	1.6	0.0
Challenging unfounded beliefs about service users	20.6	57.1	19.1	3.2	0.0
Helping staff to manage risk	15.9	65.1	17.5	1.6	0.0
Understanding attachment styles in relation to the service as a whole	15.9	46.0	25.4	11.1	1.6
Dealing with core issues (not just crisis management)	12.7	66.7	17.5	3.2%	0.0
Reducing negative staff perceptions of service users	12.7	58.7	25.4	3.2%	0.0
Minimising disagreement and blame within the team	12.7	47.6	38.1	1.6%	0.0
Conveying meta-messages to staff about hope for positive change	11.1	50.8	31.8	4.8%	1.6
Helping team, service user & carers to work together	9.5	57.1	33.3	0.0%	0.0
Raising staff morale	9.5	46.0	41.3	3.2%	0.0

Table 25.

Participant (N=66) ratings of outcomes reported by the Division of Clinical Psychology (2015) and Geach et al. (2017)

	Always	**Frequently**	**Sometimes**	**Rarely**	**Never**
Processing staff counter-transference reactions	7.9	46.0	34.9	9.5	1.6
Achieving a consistent team approach to intervention	4.8	58.7	33.3	3.2	0.0
Facilitating culture change in teams & organisations	4.8	34.9	55.6	4.8	0.0
Outcomes reported by Geach et al. (2017)					
Increased staff understanding of the service user	30.2	61.9	7.90	0.0	0.0
Increased staff empathy towards service user	22.2	57.1	19.1	1.6	0.0
Influence on service users' treatment	17.5	47.6	34.9	0.0	0.0
Improved therapeutic milieu	9.5	50.8	33.3	6.4	0.0
Increased staff satisfaction with psychological formulation	7.9	65.1	23.8	1.6	1.6
Increased staff team cohesion	7.9	61.9	30.2	0.0	0.0
Improved service user's perspective of their relationship with staff	3.2	36.5	54.0	4.8	1.6
Reduced service user problem/symptom severity	1.6	34.9	55.6	7.9	0.0
Worsened staff perspective of their relationship with the service user	1.6	6.4	11.1	54.0	27.0

3.4. Aim 3: Factors perceived to support or obstruct workable team formulation

3.4.1 Factors by team formulation type.

As most moderator and mediator variables occurred across typologies, this suggests there are 'common factors' in terms of what can support and obstruct team formulation. However, there were also factors which linked to typologies outlined in Aim 1. Firstly, factors comparable to the features of the Case Review approach were collaborating with the team, using psychologically informed interventions, and linking to care plan procedures.

Secondly, three participants whose exampled were categorised as formulating behaviour perceived as challenging described the process of allowing teams to arrive at their own evaluation of their appraisals of behaviour (rather than teaching or presenting this) to generate change.

Thirdly, the optimal condition of an existing positive relationship between the team and Clinical Psychologist was reported by participants whose examples were categorised as formulating the staff-service user relationship. Further, devising an intervention addressing the staff-service user relationship was unsurprisingly identified by this group of participants as a supportive factor.

Finally, including service user views to engender empathy, focus on the individual's context, and create opportunities for non-medical approaches to distress were reported by participants who formulated in partnership with service users.

3.4.2 Rating team formulation key aspects.

Table 26 provides the results for the ratings of the key aspects of team formulation in practice. Of the 17 aspects presented, most participants rated 14 as 'essential.' The aspects which received the highest number (>80%) of essential ratings were:

- Understanding the service user as a person beyond their difficulties
- Chipping in with ideas/not having to know the right answer
- Recognising strengths and protective factors
- A protected time and space to meet
- Generating hypotheses for the service user or presenting problem

These largely appear to cohere with the qualitatively reported supportive factors in terms of strategies to contextualise service user problems and facilitation of the group processes within team formulation.

Regarding aspects that received less support, teaching new information was considered desirable by 60% and neutral by 31% of the sample. This may be due to the previously identified helpful process of allowing teams to arrive at their own understanding to facilitate change.

Having the Clinical Psychologist as a facilitator or leader was seen as desirable by roughly half of the sample (55%). However, Clinical Psychology facilitation emerged as a mediating factor for managing difficult team dynamics and that leadership was a key feature for the Case Review and Consultation team formulation types.

'Limited use of a biological or medical understanding of the problem' was rated by 37% as neutral and 10% as undesirable. It is possible that those who rated this as an undesirable aspect may work in settings (e.g., physical health or neurology) where medication explanations play an important role in the formulation.

A desirable, but not essential, feature was using psychological theory as a framework to structure the session. This mirrors team formulation as staff support and formulating with the service user perspective as these types used psychological theory subtly throughout the session to guide discussions, suggesting flexible application of theory as appropriate to meet the session aims.

Table 26.

Participant (N=66) ratings of key team formulation aspects

Key Aspect	Essential	Desirable	Neutral	Undesirable
Understanding the service user as a person beyond their difficulties	95.2	4.8	0.0	0.0
Chipping in with ideas/not having to know the right answer	87.1	12.9	0.0	0.0
Recognising protective factors or strengths of the service user or wider system	85.5	14.5	0.0	0.0
A protected time and space to meet	83.9	16.1	0.0	0.0
Identifying hypotheses for the service user or presenting problem	83.9	12.9	3.2	0.0
Exploring triggers and maintenance factors to the problem	71.0	27.4	1.6	0.0
Forming a plan for working with the service user or presenting problem	69.4	30.7	0.0	0.0
Multi-disciplinary representation	58.1	38.7	3.2	0.0
Reviewing the service user's history or life events	58.1	32.3	9.7	0.0
Summarising the presenting problems	58.1	38.7	3.2	0.0
Discussing risk issues	56.5	32.3	11.3	0.0
Using psychological theory as a framework or structure	54.8	43.6	1.6	0.0
Reflecting on the challenges of working with the service user or the wider system	53.2	45.2	1.6	0.0

Table 26.

Participant (N=66) ratings of key team formulation aspects

Key Aspect	**Essential**	**Desirable**	**Neutral**	**Undesirable**
Having a document / product to refer to following the discussion	50.0	37.1	11.3	1.6
Clinical Psychologist as a facilitator or leader	25.8	64.5	9.7	0.0
Limited use of a biological or medical understanding of the presenting problem	9.7	43.6	37.1	9.7
Teaching new information	9.7	59.7	30.7	0.0

Extended Discussion

4.0 Overview

This section will offer a summary of the main research findings in the context of the extant literature and psychological theory. These will be discussed by research aim. This study's limitations and novel contributions will be provided. An enhanced discussion of the implications for future research and clinical practice will also be offered.

4.1 Summary and discussion of findings

4.1.1 Aim 1: Characterising team formulation.

Within this study's first aim, we identified a total of seven types of team formulation with a range of facilitation features. This extends our understanding of different team formulation approaches from those previously articulated (Geach et al., 2017). Collectively, team formulation types represent varying foci for team formulation in practice, as shown in Figure 4. The degree of emphasis on professional or service user issues appeared to differ, as did the level of emotional experiences versus task focused discussions. Characterising team formulation in this way adds further understanding of how this practice might function and who it might be helpful for, which may inform the target of evaluation.

We found support for two previously cited (Geach et al., 2017) forms of team formulation: emotional support for staff and the consultation approach. However, the informal approach to team formulation as described by Christofides et al. (2012) was not recognised within participant accounts. This may be because the survey asked for examples from practice and the level of detail required to answer the study's questions may have enabled reporting of more formal team formulation sessions as opposed to ad-hoc discussions (Christofides et al., 2012).

Further, the solution-focused approach to team formulation was a novel finding within this study, although, was only endorsed by three participants. This type was characterised by presenting case material to the team to broaden reflection and understanding of the presenting problem. It may be that this is a further subtype of staff emotional support given the focus on supporting the case holder and deeper thinking.

However, the solution-focused approach aimed to consider strengths and solutions, which arguably encourages more of a practical focus. Solution-focused approaches have been argued to foster productive and hopeful communications between nurses and service users (Bowles, Mackintosh, & Torn, 2001). The solution-focused may offer utility to teams who are unable to engage with emotion-focussed discussions and are 'stuck' in problem-saturated discourses. However, this approach to team formulation requires further exploration.

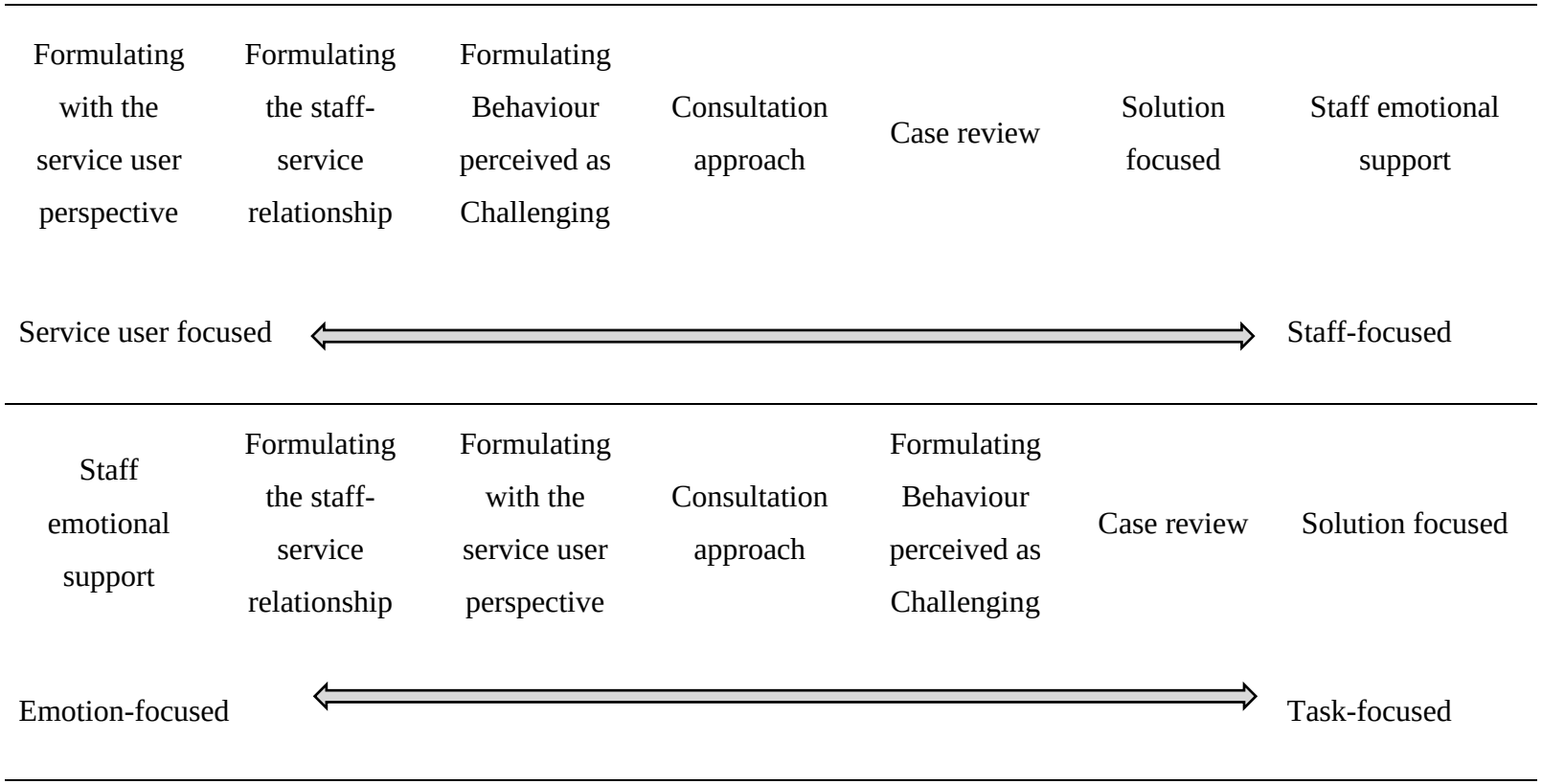

Figure 4. Team formulation typology and different foci.

Team Formulation and MDT meetings.

Areas of commonality between team formulation and MDT meetings (Nic a Bháird et al., 2016) call the specificity of team formulation into question. Table 27 provides an understanding of the common and unique features of team formulation when compared to MDT meetings. Shared features appear to be a focus on service user care and team working and development. This coheres with the assumption that MDT working supports cohesive and tailored service user care (Atwal & Caldwell, 2006). It appears that team formulation offers a number of unique features beyond this. Johnstone (2014) perceives team formulation to be advantageous over standard care approaches through the exploration of problems in the staff-service user relationship, reduced medicalisation of distress, the explanatory nature of why and how problems occur, and meaningful pathways to idiosyncratic intervention. These features were also found within this study.

Whilst MDT working is said to function to enhance clinical care through using contributions from multiple disciplines, this is an area of difference in team formulation where psychological explanations are privileged over other approaches. This is interesting given that the dominance of medical explanations have previously been reported as hindering to MDT working (Atwal & Caldwell, 2006).

However, the impact of team formulation in comparison to other types of team forums is largely unknown and so claims about whether MDT or formulation meetings are advantageous over the other cannot be made. Berry et al., (2015) found improved service user ratings of the therapeutic relationship with staff and broader milieu when inpatient staff participated in team formulation versus treatment as usual. Although, it is unclear to what degree non-intervention factors contributed to this outcome.

Table 27

Unique and shared features of team formulation and team meetings

Unique Team Formulation Features	**Common Features with Multidisciplinary Team Meetings[1]**
Use of psychological theory, models or frameworks	**Discussing individual care**
Contextualisation of behavioural, interpersonal and engagement difficulties	Providing feedback on assessments
Led or facilitated by Clinical Psychology	Discharge planning
Explaining (not describing) service user problems	Assessing and managing risk
Understanding the psychological context of staff working with the service user	Discussing problems or difficulties
Informs idiosyncratic interventions which can be meaningfully tailored to the service user[2]	Informing care plans
Exploring staff-service user relationship	**Teamwork**
Non-medicalisation of distress[2]	Peer support
	Sharing discipline-specific knowledge
	Liaising with other teams
	Team management
	Providing supervision
	Service improvement
	Learning and Development
	Developing through discussion
	Reflecting on team processes

[1] From Nic a Bháird et al. (2016). [2] From Johnstone (2014)

4.1.2 Aim 2. Evaluation of team formulation

Participants recognised most of the benefits of team formulation, as cited by the DCP (2011) as occurring in their own practice. However, this differed to evaluation reports when participants were asked to describe evaluation measures. The discrepancy between the endorsement of recognised outcomes and those offered during free recall may be due to the nature of questions posed. Initial outcome reports were attached to a specific example from practice, whereas quantitative ratings were answered with consideration to participants' general practice of team formulation. Further, the way in which information was presented in the survey may have impacted participant retrospective recollection. Participants were firstly asked to free recall outcomes from an example from practice as well as evaluation measures. Following this, participants rated outcomes from a list provided (recognition). Whilst social

desirability may have played a role (given that team formulation benefits were referenced from a professional body), it is possible that recognition, rather than recall, broadened participant thinking of their own practice.

Evidence-based practice.

There is debate regarding the issue of evidence-based practice (EBP) with fundamental questions concerning the common use of formulation (including team formulation) in practice despite remaining largely unevidenced (Cole et al., 2015; DCP, 2011; Johnstone, 2011). Results from this study suggest evaluation on a case level may be one way to demonstrate desired effects of team formulation, reflecting some evaluation approaches in the research to date (Ingham, 2011; Rowe & Nevin, 2014). However, isolated evaluations make generalisable conclusions about team formulation effectiveness difficult to ascertain.

Given the EBP approach is central to Clinical Psychology training and practice, and that team formulation is promoted by Clinical Psychology professional bodies (DCP, 2015), there is an argument for the need to evidence team formulation. Moreover, there is arguably an ethical need to evaluate team formulation, a relatively emerging practice, to measure any negative effects given that lack of change, as well as some shortcomings of team formulation, have previously been identified (Geach et al., 2017).

In contrast, Johnstone (2011) states that formulation should not be subject to the EBP paradigm due to the incongruence between the underpinning positivist principles versus the subjective, constructionist nature of formulation. An alternative to EBP is the common factors approach which suggests particular factors are effective at producing desired outcomes across different types of therapies (Wampold, 2001). The common factors literature is considered to oppose medical approaches to effectiveness research due to the focus on factors such as the therapeutic relationship, collaboration, and goal-oriented tasks (Wampold, 2001). However, authors (Mulder, Murray, & Rucklidge, 2017) suggest research into common factors is limited due to methodological difficulties separating the relationship from other variables.

Despite the divergent views on evidencing the principles of therapeutic change, researching both model-specific and common factors can be achieved by studying therapy process i.e., evidencing aspects of common factors that are empirically based or specific therapeutic processes within evidenced-based models (Lambert & Ogles, 2014). Such

process-outcome research is typically practice-based and considered more reflective of clinical practice (Mulder et al., 2017). Given that this study found specific team formulation types, as well as shared helpful factors, process-outcomes research appears to be a useful focus for future team formulation research.

4.1.3 Aim 3. Supporting and obstructing factors of team formulation.

Communities of practice.

One theoretical framework that can be used to understand the process by which change may occur in team formulation is Communities of Practice (CoP; Wenger, 2000). This can help us to understand the processes of group interactions in context.

CoP is a term coined by Lave and Wenger (1991) based upon social learning theory. Each CoP must have a common interest, ongoing interaction and a shared practice where learning must be contextualised for it to inform practice (Wenger, 1998, 2000). CoP may include professionals who use each other as information sources to broaden knowledge and repertoires. In this way, team formulation could be understood as a CoP.

Reported functions of communities of practice appear to mirror those of general team formulation. These have been reported as gaining information, problem-solving, drawing on collective experiences and knowledge, and collaborative working (Eckert, 2006). Indeed, this speaks to the findings of this study's third aim where participants reported drawing on the collective knowledge of the team to inform an understanding of problems and to devise solutions to problems.

This study found that contextualising service user and team distress through use of psychological theory was a key feature. Further, ratings of key aspects revealed the importance of allowing teams to arrive at their own hypotheses and understanding. This mirrors Eckert (2006) who states CoP are fundamentally about the process of sense-making where groups arrive at interpretations and mutual understandings. Barwick, Peters, and Boydell (2009) theorise that these processes are important to transfer knowledge into changes to practice. This has implications for further understanding processes within team formulation.

Distress.

This study found a significant factor perceived to impact upon workable implementation of team formulation was the level and nature of distress amongst the staff

team. Understanding why staff teams may present as distressed is important to consider. In mental health and IDD services, professionals can experience adverse clinical working conditions including high-risk behaviours (Jenkins, Rose, & Lovell, 1997) such as violence and aggression, verbal abuse, sexualised behaviour, self-harm and interpersonal challenges (e.g., allegations and threats). Further, some working contexts require staff to work intensely over a long duration with vulnerable, unpredictable and complex populations. Increasingly limited resources such as reduced staffing and limited clinical supervision have also been linked to staff stress in mental health nurses (Edwards & Burnard, 2003). Within this study, participants referenced working with cases that were both emotionally and practically challenging. The normalisation and explanation of team distress was considered key helpful features.

Staff experiences of distress are important to address given that literature conveys an association between work-related stress and quality of care provision. Service users may receive a negative or detached response from professionals (Dawkins, Depp, & Selzer, 1985; Holmqvist & Jeanneau, 2006) in a milieu which may foster sub-optimum care (White, Holland, Marsland, & Oakes, 2003). Some participants highlighted when staff teams presented as distressed, this could limit opportunity for engaging in a shared understanding, or difficulties considering the service user's views, meaning that fractured understanding and practices remained.

Moving to the general team formulation literature, the theme of staff distress has not been a specific focus of research. However, Jackman et al. (2017) argue team formulation facilitators should address teams' anxieties about how to implement the suggested intervention as this can create concerns about the service user's risk. The authors (2017) suggest spending time planning the intervention as well as strategies to manage barriers. This analysis is limited to the specific application of one framework, the Newcastle Model (James & Stephenson, 2007) within an inpatient dementia service.

Murphy et al. (2013) highlighted team formulation participants expressed feelings of "fear, frustration, burnout, isolation and anger" (p. 444). Team formulation was considered by participants to aid acceptance of these feelings, although, from this study it was unclear how this occurred. Within Murphy et al. (2013), normalising feelings and exploring these by considering the service user's presenting problems and history was considered a helpful way to address negative feelings.

In a study by Dallimore et al. (2016), staff reported that sharing emotions raised by working with service users was a beneficial process. Indeed, we also found that turning towards emotional distress was identified by many as a helpful factor. In comparison, focusing only on the service user's emotional experiences was reported in the context of unsuccessful team formulation.

Taken together, the team formulation literature conveys that staff report benefitting from discussing their emotional responses to working with the service user and concerns about trying new care approaches. However, it may be that such research is limited by desirable reporting; those who found discussing emotional responses unhelpful may not have shared such views. Given that the theme of distress was a feature of many participant's accounts, further research on how facilitators might work with staff distress is needed.

Working alliance.

Bordin's (1979) theory of working alliance is comprised of three elements: (1) bond; (2) tasks and; (3) goals. In the context of team formulation examples analysed within this study, the therapeutic bond appears to be facilitated through respecting team responses and providing space to contain and process emotional experiences fostering a sense of relational safety for attendees. It is plausible this bond may be perceived by attendees to be ruptured when there is a lack of relational safety within sessions. Factors such as high expressed emotion, emotional contagion, power dynamics, hierarchical group structure and unsuccessful management of conflicting views which have the potential to extend outside of the team formulation session may prevent repair of this therapeutic bond. Authors (Berry et al., 2015; Berry, Barrowclough, & Haddock, 2011) highlight the importance of therapeutic bonds between staff and service users for outcome and this study suggests the relationship between the team and Clinical Psychologist is important within team formulation also.

Therapeutic goals refer to the purpose of sessions and how well this is understood and shared (Bordin, 1979). Establishing a common team goal and maintaining session structure, factors emerging from this research, may promote goal agreement, particularly during times of conflict.

When considering team formulation, the therapeutic bond appears to be facilitated through respecting team responses and providing space to contain and process emotional experiences fostering a sense of relational safety for attendees.

Task agreement i.e. what needs to be done to meet therapeutic aims (Bordin, 1979) could be harnessed through the setting condition of socialisation to team formulation processes which may be useful where teams are resistant to psychological explanations of problems. Further, discussing plans and strategies for practice may enhance task agreement within team formulation.

4.2 Study Implications

4.2.1 Research implications.

In light of the aforementioned limitations to this research, there are a number of implications for future research in this area.

Team formulation typology.

Typology enables discrimination among various potential 'types' of team formulation. This is advantageous for more precise operationalisation of team formulation in practice. In addition, future research could test and evaluate the different team formulation approaches to enable Clinical Psychologists to refine their practice or select the most appropriate type for their work context/desired function.

Evaluation and outcomes research.

There remains a clear and significant need for more research into the effects of team formulation in practice. This study highlighted that approximately half of Clinical Psychologists did not use formal or specific approaches to evaluate team formulation. This links to a broader criticism of the team formulation literature highlighting a lack of evidence for team formulation effectiveness (Cole et al., 2015; Geach et al., 2017). As such, a salient issue and priority for future research is the need to further explore the relationship between team formulation processes and outcomes.

Moderator and mediator variables.

A critique of the extant literature is the lack of understanding about how team formulation may work. This research highlighted a number of potential moderator and mediator variables that may influence workable implementation of team formulation. Future research could validate and test these variables in practice to aid understanding of how to harness these aspects in practice. One possible method to further research the identified variables is the use of single case, observational research which triangulates multiple perspectives.

Single-case research.

One way to address these implications may be to use a hermeneutic, single case efficacy design (HSCED; Elliott, 2002). The HSCED method aims to answer how and why an intervention may be effective. An in-depth investigation assessing the efficacy of formulation sessions could establish whether outcomes occur, and if so, whether they can be linked to significant events (either arising from the team formulation or other factors). The magnitude of change and extent to which outcomes can be linked to team formulation and non-team formulation factors could be assessed. This may be done by measuring outcomes at both the service user and staff level before and after the team formulation meeting. Observation of process could also be used during team formulation sessions with the identified form, functions, and facilitating factors identified from this research in mind. Further, a HSCED typically uses both qualitative (e.g., The Change Interview) and quantitative methods (e.g., self-report questionnaires, rating scales, and observations) to capture data on a case-by-case basis. This approach would enable an in-depth understanding of which aspects of team formulation are working and why which would help to refine team formulation processes with a view to enhancing desired outcomes.

4.2.2 Clinical Implications

The proposed study may be useful to inform future practice, particularly for Clinical Psychologists working as part of a team. The factors identified in this research could be used to assist the planning and implementation of team formulation in practice. This is important as it has been outlined that more clarity and precision is required by the profession in order to use team formulation effectively (Christofides et al., 2012).

Based upon the identified mediator and moderator variables, the following suggestions are made for team formulation practice:

Managing team distress

- Sensitively assessing the team's level of distress before a team formulation session or at the start, with consideration given to strong feelings of anxiety or anger
- Responding to the team's emotional experiences before the service user's distress
- Giving permission to express difficult feelings (e.g., modelling, normalising)
- Engaging with team's distress and offering an explanation of this in the context of the work with the service user

Moderator Variables

- Offering flexible session delivery to enable attendance, or finding ways to gather the views of those who are unable to attend
- Implementing team formulation at a point where there is sufficient information known about a service user, or, identify the service user before the session to enable preparatory work
- Engaging management, as well as the wider team, to engender positive relationships and openness to psychological approaches
- A period of socialisation to the team formulation process could be offered via training or education about formulation or psychological models/approaches
- Engaging family before the session to address separate issues they may have

Mediator Variables

- Managing unhelpful group processes (e.g., dominating or obstructing responses) and inviting responses to reduce existing power imbalances within teams
- Engaging key professionals in the service user's care
- Exploring differing perspectives in the context of the staff-service user relationship or formulation about service user's presenting problems
- Drawing on the of the combined group wisdom
- Communicating the formulation through writing or drawing both within and outside of the session to enhance accessibility
- Establishing a shared team goal to manage different views
- Using guided discovery, positive reframing and including the service user's views to promote empathy
- Developing a coherent team approach to care which considers organisational constraints
- Providing follow-up support and revisiting the formulation/plan

Role of Clinical Psychology

The need for Clinical Psychology involvement in team formulation, based on this research, remains key due to a range of competencies which are arguably required to manage the supporting and obstructing factors identified. This includes (a) ability to synthesise and manage different views from multiple sources, (b) use of psychological theory to

contextualise and make sense of both service user, team and service level difficulties, (c) knowledge of change processes at the individual, group and organisational level (d) research and critical thinking skills which can be utilised for evaluation (DCP, 2010; HCPC, 2015; Skinner & Toogood, 2010).

4.3 Critical Evaluation

4.3.1 Limitations.

This research has a number of limitations. We used an online survey method which offered a number of aforementioned advantages (see Section 2.3) but did not allow for further exploration or clarification of responses.

Further, the results of the study were derived from Clinical Psychologist self-report. Clinical Psychologists have a particular stake in team formulation, a practice that is seen as inherent to Clinical Psychology and often facilitated and promoted by this profession. Therefore, the sample, who may have been motivated to participate based upon their stake in team formulation, was likely biased towards promoting the value of team formulation. We attempted to minimise this bias by asking for both positive and negative observations and experiences of team formulation practices, however, the likely favourable perceptions of team formulation is a shortcoming of the sample.

There are significant limitations to the outcomes reported by participants which are of an unknown validity, reliability and accuracy. Therefore, the degree to which the claimed outcomes truly represent the potential changes that may have occurred is unclear. This links to a broader issue within team formulation research, where difficulties mapping the intended aims onto specific and meaningful outcomes are problematic and sparse within the literature.

In addition, this study focused on Clinical Psychology practice and included respondents with a range of team formulation experience to reflect current practice (DCP, 2015). However, the literature conveys that team formulation is practiced by other professional groups such as psychiatrists (Mohtashemi, Stevens, Jackson, & Weatherhead, 2014) and mental health nurses (Crowe et al., 2008; Rainforth & Laurenson, 2014) limiting this study's generalisability to other professions.

A key limitation was the attrition rate across the survey. This is below what is expected in survey-based research, which cite an average 10% dropout rate (Hoerger, 2010). The survey length is likely to have been the most significant factor contributing to survey

drop-out. Consideration was given to the sequencing and necessity of questions. Some questions were inductive in approach (e.g., asking participants to provide responses based on their experience) and others were deductive (e.g., ratings of existing team formulation aspects). There was, therefore, a need to counterbalance the order of the material, with deductive components being presented second to avoid priming participants for open questions.

4.3.2 Novel contributions.

Team formulation has been described and researched as a divergent number of practices under the umbrella term of team formulation. This research offers an understanding of team formulation typology with seven differing forms and features based upon exemplars from practice.

Further, evidence of the effects of team formulation in practice is limited due to a dearth of understanding of viable evaluation methods. This study adds further understanding, beyond staff attitudes, to describe current evaluation approaches used in practice. These included service-level, team formulation, and service user-level indicators, although, more research is needed for targeting evaluation at key team formulation process-outcome links.

This research provides new knowledge in terms of the perceived barriers and facilitators to team formulation in practice. This have been understood in the context of the common factors models suggesting there are shared process across different team formulation types.

Finally, this is one of the few studies, in addition to Christofides et al. (2012) and Wilcox (2013), to explore team formulation from the Clinical Psychologist perspective. Drawing upon multiple practice-based accounts has enabled a higher-order, theoretical understanding of how team formulation can be workably implemented in practice.

Critical Reflection

5.0 Overview

This section provides reflections of the research process, challenges encountered, and the areas of learning and development. Reflections are considered from a scientist-practitioner, epistemological, and ethical perspective.

5.1 Scientist practitioner.

When consulting the team formulation literature, I was struck by the dichotomy between accounts of successful team formulation from this and previous research, and the broader lack of consistent evidence of effects. This practice is widespread, approached by many with enthusiasm, and is held in high regard by the profession. Yet the mechanisms underlying team formulation are unclear, the little outcomes research published conveys inconsistency, and, arguably, much research is skewed towards favourable (rather than critical) descriptions of this practice. This reflection served to perpetuate continuous challenging of my own views and understanding of team formulation and also encouraged me to pursue research on this topic.

There remain fundamental barriers to progressing formulation outcomes research. During my undertaking of this project, numerous Clinical Psychologists voiced concerns about the 'lack' of cause-and-effect the research team formulation would yield and disagreed with the theoretical and descriptive (rather than predictive) nature of the study. I felt these responses, which could be understood from a positivist philosophical position, highlighted a broader tension within the literature regarding whether and how formulation can be empirically researched.

Throughout this research process, I recognised the challenges of researching team formulation process/outcome, with much of the literature (past, present and likely in the future), centring on interviews of staff about their experiences of team formulation. From a scientist-practitioner perspective, repeated use of the same method limits our potential understanding and the refinement of team formulation practice. However, this enabled opportunity to take a different approach to researching this practice.

Not only has this research provided a preliminary theoretical understanding of team formulation, this has informed my perspective on psychological formulation, including team formulation, in clinical practice. This research has afforded me the opportunity to consider

how I might practice team formulation myself when qualified (and has generated an internal pressure to be successful in this given the knowledge acquired through the thesis process). This thesis has also created appetite for monitoring the effectiveness of my own (and the service's) team formulation practice in the future.

5.2 Epistemology and method.

The survey employed in this research was considered somewhat half-way between an in-depth qualitative exploration and a quantitative survey identifying associations amongst variables. The mixed inductive and deductive approach to data collection and analysis meant the research project straddled both known and unknown elements at the same time. This seemed appropriate given the emerging, yet still limited, theoretical understanding of team formulation.

With regards to my epistemological position, critical realism appeared to fit with the survey method. This position considers there is a reality to be known but is critical of how the researcher and participants construe this reality, meaning that all theories and methods are open to critique. My reflections on participants' accounts were congruent with this position. I fluctuated between the perceived strengths and limitations of the survey method and the responses generated through this. At times, I felt that the understandings gleaned from the research would not have been possible without the reflective accounts provided by Clinical Psychologists and their understanding of what occurred during team formulation sessions. This was aided by the insightful and psychological accounts which, in some cases, painted a picture of the participant's experience. However, throughout analysis, I questioned how accurate one person's view of team formulation, a group activity, really was. At some points, I felt frustrated with the minority of responses which included participant's wishes or desires, rather than actual practices. Taken together, the survey method afforded access to the Clinical Psychologist perspective of what occurs within team formulation, a perspective that is largely absent from the extant literature, aside from Christofides et al., (2012) and Wilcox (2013). Nonetheless, self-report has its limitations and the findings from this study require validation and further research through single-case or observational research.

There was pressure to undertake research that would generate adequate data to answer the research aims but could be completed within a tight timeframe. The survey method was a pragmatic way to achieve this. However, surveys offer the researcher little control once the survey is 'live' and this generated uncertainty about who would participate, how many people

would complete or withdraw, and whether responses would be rich enough for analysis. As a result, I included several areas of enquiry in the survey for my own assurance that the research aims were covered. However, as the number of questions grew, the length of the survey became a new concern due to negatively impacting upon survey completion rates. This was mediated by gathering feedback from pilot participants on survey completion times, including some optional components of the survey, and varying question format.

What was not anticipated was the significant time and energy required to manage and reorganise the vast amounts of data yielded from the survey. As I was previously doubtful about the volume and quality of data a survey would produce, this emerged as an unanticipated challenge and the number of responses and the amount of detail exceeded my expectations. Whilst the time needed for qualitative analysis was not underestimated, Framework Analysis uses a systematic approach, which required meticulous management and coding of descriptive data. This task initially felt overwhelming and unmanageable and was overcome through disciplined, repeated efforts to analyse data following the steps of Framework Analysis. As I reached the end of the analysis, I reflected on how the structured and methodical nature of Framework Analysis served to benefit this research, although this only became apparent upon finalisation of the frameworks. Team formulation as a practice is divergent and varied and my research task was to create a synthesised, theoretical understanding of this practice. Framework Analysis was advantageous for allowing a structured overview of the topic whilst still permitting description of the nuances that emerged.

However, despite the substantial time and attention dedicated to the analysis, I felt concerned about the acceptability of the results to the Clinical Psychology community. This concern was enhanced when, during the research process, a quotation from our previous team formulation publication was used out of context and circulated around Twitter to attack the recently published Power-Threat-Meaning Framework (Johnstone & Boyle, 2018). Given the quotation used cast a negative light on team formulation, this left me with a concern that any future publications might be considered unfavourable by readers or reviewers. This motivated me to continue to attend to the quality of the research and ensure that participant quotations were accurate reflections of their overall accounts as much as possible. Whilst it is difficult to know how well this study's sample is reflective of Clinical Psychologists who practice team formulation in the UK, this is the first to draw generalisations from a pool of examples

of team formulation in practice and I hope findings offer some value to those who participated.

Finally, an enduring frustration with the survey method was my wanting to know more than the participant responses indicated. This feeling particularly arose regarding the study's second aim, where a significant proportion of respondents reported they either did not evaluate their practice or used informal feedback from staff as an indicator of change. In this sense, the research felt incomplete as I felt unable to offer an enhanced understanding to inform future evaluation approaches. However, the difficulties evaluating team formulation are a current, ongoing issue and participants' own views reminded me of the problematic and complex nature of this topic:

"I would like to consider other ways of evaluation, but I have to admit that it is not well evaluated and it is difficult to know how to evaluate it in a meaningful way. There are so many confounding variables."

5.3 Ethical reflections.

A related ethical issue is that without robust or clinically meaningful evaluation measures, the extent to which team formulation could be ineffective or damaging to those involved (e.g., Clinical Psychology, non-psychology team members, the service user or to the reputation of the service) is currently unknown. It is likely that on balance, team formulation is considered more helpful than hindering and in practice would be carried out with the staff or service users' best interests in mind. However, based upon the unsuccessful examples from practice, there appear to be a number of challenges (and potential pathways for negative outcomes) to team formulation. There is a significant way to go before we can understand what 'works' in team formulation, an issue that should be made clear to those who are involved in this practice.

Secondly, there is a lack of service user involvement in team formulation despite this practice including exploration of service users' personal history, relational styles, and inferences of the meaning of traumatic/adverse experiences. This research indicated that service user views were interwoven into the team formulation in only a proportion of cases, yet, service user views were cited in some cases as a helpful mediating factor.

The ethical dilemma remains whether to afford staff protected time to process difficult or negative experiences, or whether to promote the rights and values of the service user by meaningfully involving them in the process. Some participants reported managing this ethical

tension by allowing the service user opportunity to feedback on the formulation product after the session, however, this maintains an existing power imbalance and implicitly suggests staff views are privileged over service user views. Further work is needed to understand whether and how service users might become more meaningfully involved in team formulation in the future.

Regarding this study, participants were asked to complete a lengthy survey and, whilst this was done on a voluntary basis, this research did not utilise incentive schemes and there was no benefit to participation other than the opportunity to contribute to the knowledge base of team formulation.

Participants had control over when they completed and submitted a response, however, it is possible this could have been within work time. This is a point of ethical consideration given the majority of participants worked for the NHS and may have taken time out of their working day at a time where there are pressures for clinicians to maximise efficiency and productivity.

Taking these two points together, the result of the survey may represent the views of participants who had a desire to promote team formulation. There is a question about whether those who had experienced significant barriers to team formulation would be motivated to self-report these potentially difficult experiences via an online survey, particularly as the participant information sheet stated that verbatim quotations may be used in future publications. Gathering information about perceived unsuccessful examples and negative outcomes may have felt shaming or exposing for some participants who were not aware of how many other participants had also volunteered such information. Whilst this is a limitation of the sample and method used, this highlights the need to continue to evaluate and understand the potential change processes within team formulation using alternative methods, such as observation.

To conclude with a final thought: there is an increasing need for more efficient and effective psychological approaches in healthcare and team working, meaning there is a firm need to better understand team formulation processes. With this in mind, I hope my work will fuel further debate, critique, practice, and research on team formulation.

Word Count: 31,438

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APPENDICES

Appendix A: Keywords and Search Terms

Search Terms used to search AMED, CINAHL, HMIC, Medline, PsychARTICLES and PsycINFO: -

16	6 AND 15
15	7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14
14	"reflective practice"
13	consult*
12	meeting*
11	"multi?disciplinary "
10	professional*
9	group*
8	Staff
7	team*
6	1 OR 2 OR 3 OR 4 OR 5
5	"case formulat*"
4	"shared understanding"
3	"shared formulation"
2	"case conceptuali?ation"
1	"psycholog* formulat*"

Keywords used to search Scopus: -

"psychological formulat*" and	team*
"psychological formulat*" and	Group
"psychological formulat*" and	Staff
"psychological formulat*" and	"multi disciplinary"
"psychological formulat*" and	professional*
"psychological formulat*" and	Meeting
"psychological formulat*" and	"reflective practice"
"psychological formulat*" and	Consultation
"case conceptualisation" and	team*
"case conceptualisation" and	Group
"case conceptualisation" and	Staff
"case conceptualisation" and	"multi disciplinary"
"case conceptualisation" and	professional*
"case conceptualisation" and	Meeting
"case conceptualisation" and	"reflective practice"
"case conceptualisation" and	Consultation
"case formulat*" and	team*

Appendix B: Screening Tool

Reviewer	Study ID:	
Title:		
Year:	Author(s):	
1. Type of Article		
• Written in the English language **AND** • In-press, in-preparation or published article in a peer-reviewed journal	☐ Yes ☐ No: Exclude* ☐ Unsure	Comments:
2. Setting		
Setting or population relevant to practitioner psychologists (e.g. offender health, mental health, physical/neuro etc.).	☐ Yes ☐ No: Exclude* ☐ Unsure	Comments:
3. Intervention		
The article provides **at least one of the following**: - • A description, definition or theory of team formulation • An account of how team formulation was/should be implemented in practice • An account of how team formulation practice was/should be evaluated • Outcomes which are perceived/presented as arising from or linked to team formulation practice	☐ Yes ☐ No: Exclude* ☐ Unsure	Comments:
Team Formulation **includes the following** as a minimum: - • Involves a psychologist • Is created for or with a service user (or difficulties associated with working with the service user/population) **AND IS NOT: -** • Restricted to occurring between a supervisor and supervisee only • Developed on the basis of, or presented as, a fictional case example or vignette • Solely a training package	☐ Yes ☐ No: Exclude* ☐ Unsure	Comments:

Appendix C: Data Extraction Form

Reviewer:	Study ID:
Title:	
Year:	Author(s):
Source	☐ Bibliographic Electronic Database ☐ Hand searching of references
Type of article	☐ Single expert opinion ☐ Expert consensus ☐ Empirical research study ☐ Other
Aim/Research Question(s)	
Design and Method	
Sample/Population	
Affiliation/Author's role	
Qualitative Descriptions	
Description and Definition of Team Formulation (How is it defined, labeled, accounted for, detailed or written about?)	Broad Description: Definition:
Format (How was/should team formulation be presented, organised or arranged?)	
Intention (What was/should be the aim, goal or intended outcome of team formulation)	
Purpose (Why was/should team formulation be practiced?)	
Implementation Process (How was/should Team Formulation be applied/put into effect/action?)	
Psychological Models/ Theories used	
Evaluation	Was team formulation practice evaluated? ☐Yes ☐No How this was/should be done:
Measures Used	☐ Qualitative: ☐ Quantitative:
Outcome Level	☐ Service user:

	☐ Staff: ☐ Service:
Outcome/Indicator/Variable	
Key Findings	
Strength of Quantitative findings	☐ Statistically sig. positive effect. Effect size: ☐ Statistically sig. negative effect. Effect size: ☐ Trend towards positive result ☐ Trend towards negative result ☐ No observable change over time ☐ Not reported
Qualitative Themes:	
Conclusions	
Limitations	
Comments	

Appendix D: Transtheoretical Aspects of Formulation

(Division of Clinical Psychology, 2011, p. 6)

All formulations across different therapeutic modalities:

- Summarise the service user's core problems;
- Suggest how the service user's difficulties may relate to one another, by drawing on psychological theories and principles;
- Aim to explain, on the basis of psychological theory, the development and maintenance of the service user's difficulties, at this time and in these situations;
- Indicate a plan of intervention which is based in the psychological processes and principles already identified;
- Are open to revision and re-formulation.

Appendix E: Author Guidelines

Manuscripts for submission to *The Journal of Clinical Psychology* should be forwarded to the Editor as follows:

1. Go to your Internet browser (e.g., Netscape, Internet Explorer).
2. Go to the URL http://mc.manuscriptcentral.com/jclp
3. Register (if you have not done so already).
4. Go to the Author Center and follow the instructions to submit your paper.
5. Please upload the following as separate documents: the title page (with identifying information), the body of your manuscript (containing no identifying information), each table, and each figure.
6. Please note that this journal's workflow is double-blinded. Authors must prepare and submit files for the body of the manuscript that are anonymous for review (containing no name or institutional information that may reveal author identity).
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Format. Number all pages of the manuscript sequentially. Manuscripts should contain each of the following elements in sequence: 1) Title page 2) Abstract 3) Text 4) Acknowledgments 5) References 6) Tables 7) Figures 8) Figure Legends 9) Permissions. Start each element on a new page. Because the ***Journal of Clinical Psychology*** utilizes an anonymous peer-review process, authors' names and affiliations should appear ONLY on the title page of the manuscript. Please submit the title page as a separate document within the attachment to facilitate the anonymous peer review process.

Style. Please follow the stylistic guidelines detailed in the *Publication Manual of the American Psychological Association, Sixth Edition*, available from the American Psychological Association, Washington, D.C. *Webster's New World Dictionary of American English, 3rd College Edition*, is the accepted source for spelling. Define unusual abbreviations at the first mention in the text. The text should be written in a uniform style, and its contents as submitted for consideration should be deemed by the author to be final and suitable for publication.

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Title Page. The title page should contain the complete title of the manuscript, names and affiliations of all authors, institution(s) at which the work was performed, and name, address (including e-mail address), telephone and telefax numbers of the author responsible for correspondence. Authors should also provide a short title of not more than 45 characters (including spaces), and five to ten key words, that will highlight the subject matter of the article. Please submit the title page as a separate document within the attachment to facilitate the anonymous peer review process.

Abstract. Abstracts are required for research articles, review articles, commentaries, and notes from the field. A structured abstract is required and should be 150 words or less. The headings that are required are:
Objective(s): Succinctly state the reason, aims or hypotheses of the study.
Method (or Design): Describe the sample (including size, gender and average age), setting,

and research design of the study.
Results: Succinctly report the results that pertain to the expressed objective(s).
Conclusions: State the important conclusions and implications of the findings.

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Article Types

Research Articles. Research articles may include quantitative or qualitative investigations, or single-case research. They should contain Introduction, Methods, Results, Discussion, and Conclusion sections conforming to standard scientific reporting style (where appropriate, Results and Discussion may be combined).

Review Articles. Review articles should focus on the clinical implications of theoretical perspectives, diagnostic approaches, or innovative strategies for assessment or treatment. Articles should provide a critical review and interpretation of the literature. Although subdivisions (e.g., introduction, methods, results) are not required, the text should flow smoothly, and be divided logically by topical headings.

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Appendix F: Ethical Approval

Notification of ethical approval was received via email on 4 October 2017, shown below. Confirmation was requested in letter form on 28 January 2018, also shown below.

Ethics application decision - PSY171812

S Soprec
Wed 04/10/2017 12:52
To: Nicole Geach (08105312)

Reply all

Inbox

You forwarded this message on 24/01/2018 18:40

Hi,

This is to confirm that your application titled *How can team formulation work best in clinical psychology practice?."* which was submitted for ethical approval, has been Approved by the School of Psychology Research Ethics Committee.

Kind regards,
SOPREC

UNIVERSITY OF
LINCOLN

26th January 2018

TO WHOM IT MAY CONCERN

This is to confirm that Nicole Geach's ethical approval for PSY171812 *"How can team formulation work best in clinical psychology practice?"* was considered and approved by the committee of SOPREC

If you have any queries about the ethical approval, please email soprec@lincoln.ac.uk, alternatively call 01522 835510

Kind regards

Dr Amanda Roberts
Chair of School of Psychology Research Ethics Sub Committee

pp: By Zoë Mead, Officer of Chair of School of Psychology Research Ethics Sub Committee

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Appendix G: Participant Information Sheet and Consent Form

How Can Team Formulation Work Best in Clinical Psychology Practice?

Chief Investigator: Nicole Geach
Supervisors: Dr Danielle De Boos and Dr Nima Moghaddam
Project ID: PSY171812

We would like to invite you to take part in a research study. Before you decide if you would like to participate, we would like you to understand why the research is being done and what it would involve. Please read the participant information sheet and contact us with any questions you have.

To be included, you must be:

- A registered Clinical Psychologist practicing within the UK
- Have some experience of involvement in team formulation in practice

What is the purpose of the study?
Team formulation is the process of working as a professional team to create a shared understanding of an individual's difficulties. This study aims to describe how clinical psychologists best implement and evaluate team formulation through practice-based examples. Answers to this online survey will be used to learn from current practice and add to the current understanding of team formulation in practice.

Who is organising and funding the research?
This research is being organised by the University of Lincoln and is being funded by the Trent Doctorate in Clinical Psychology. The research is in part fulfilment of the Doctorate in Clinical Psychology.

Why have I been invited?
You are being invited to take part because you are a clinical psychologist practicing in the UK. You are being contacted via your professional network membership.

Do I have to take part?
Participation is entirely voluntary. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to view a consent form and endorse this if you agree. If you decide to take part you are still free to withdraw either before or during the survey without giving a reason.

What will happen if I take part?
You will be asked to provide brief, descriptive information about yourself to allow for description of the overall sample in the report. This includes your gender, age bracket and years qualified as a clinical psychologist. This information will not be linked to the content of the responses to the other questions.

This survey should take approximately 45 minutes to complete, depending on how much you wish to write. There are multiple choice, Likert scale ratings and free text response questions. You will be asked about your opinion on team formulation issues. You will also be asked to describe some of your team formulation practices if you wish to.

What are the possible disadvantages and risks of taking part?
We believe there are no known risks associated with this research study. The questions are deemed to be non-sensitive. However, as with any online related activity, the risk of a breach is possible. Risks will be minimised by storing responses on an encrypted computer.

What are the possible benefits of taking part?
We cannot promise the study will help you but the information from this survey is intended to be used to gain a clearer understanding of how clinical psychologists best implement and evaluate team formulation. This study aims to disseminate examples of where team formulation practice has been perceived as working well and not so well. It is hoped that this may lead be of benefit to future practice.

What if there is a problem?
If you have a concern about any aspect of this study, you should contact the researcher who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this by contacting the School of Psychology Research Ethics Committee (SOPREC). Contact details are provided at the end of this information sheet.

Will my taking part in the study be kept confidential?
Ethical and legal practice will be followed and all information will be handled in confidence. All survey data will be kept strictly confidential on a password-protected database. Each response has its own unique code so that you cannot be identified. Some parts of the data may be viewed by the research team named above. Responses, including direct quotes from free-text answers, may be used as part of the report or later survey iterations. These will be anonymised and therefore not traceable back to you.

You will be asked to provide an email address should you wish to volunteer for participation in the second round. Only the chief investigator will have access to this email address. This will be kept for the duration of the project and deleted upon study completion. All other data will be kept securely and anonymously for 7 years. After this time data will be disposed of securely.

What will happen if I don't want to carry on with the study?
Your participation is voluntary and you are free to withdraw without giving any reason. You can do this by exiting the survey or closing your browser at any time. You can withdraw your data by contacting the researcher up until seven days after the closing date of the second survey.

What will happen to the results of the study?
Once the study is completed, the results will be written into a thesis. The results are also intended to be disseminated to professionals by submitting for publication in professional and academic journals. Further, this study aims to devise best-practice guidelines for team formulation practice based on survey responses and the published team formulation literature.

Who has reviewed the study?
This study has been reviewed and given favourable opinion by University of Lincoln School of Psychology Research Ethics Committee (SOPREC).
Address: School of Psychology Research Ethics Committee, College of Social Science, University of Lincoln, Brayford Pool, Lincoln, LN6 7TS.
Email: soprec@lincoln.ac.uk
Project ID: PSY171812

Further information and contact details
Nicole Geach
Email: 08105312@students.lincoln.ac.uk
Address: Doctorate in Clinical Psychology, Sarah Swift Building, University of Lincoln, Brayford Wharf East, Lincoln LN5 7AT.
Telephone: 01522 88 6029

Appendix H: Participant Debrief Information

Thank you for participating in this study.

This study aimed to understand and describe how clinical psychologists best implement and evaluate team formulation through practice-based examples. The research also aimed to provide a better understanding of the barriers and facilitators to implementing best team formulation practice.

If you have any questions about the study, please contact the researcher using the contact details below.

If you have any concerns about the ethics of this study or you wish to complain about the study, please contact the School of Psychology ethics committee on soprec@lincoln.ac.uk with details of your complaint.

Should you change your mind about your participation in the study, you have until 31 January 2018 to withdraw your data. You can do this by contacting the researcher directly or, alternatively, you can contact the School of Psychology research ethics committee (SOPREC) with your participant ID and the name of the study. SOPREC will then arrange with the researcher for your data to be removed.

Thank you again for taking the time to participate in our study.

Further information and contact details:

SOPREC: University of Lincoln School of Psychology Research Ethics Committee Address: School of Psychology Research Ethics Committee, College of Social Science, University of Lincoln, Brayford Pool, Lincoln, LN6 7TS. Email: soprec@lincoln.ac.uk

Chief Investigator: Nicole Geach Email: 08105312@students.lincoln.ac.uk Address: Doctorate in Clinical Psychology, Sarah Swift Building, University of Lincoln, Brayford Wharf East, Lincoln LN5 7AT. Telephone: 01522 88 6029

Appendix I: Online Survey

Part 1: About You. Answers to the following questions will be used to describe the overall study sample.

Please create your own unique participant code. This will be used to identify your response without revealing your identity, should you wish to withdraw your data. Your code will be 5 characters long. The first three characters are the first three letters of your maiden name. The following two characters are the numbers of the day of the month of your date of birth. As an example, Joanna was born on the 5th of the month. Her maiden name is Thomas. Joanna's identification code would be: THO05.

Q1 Where did you hear about this study?

▼ Facebook (1) ... Other (10)

Q2 Please indicate your gender

Male	Female
Other	Prefer not to say

Q3 Please indicate your age

24-30 years	31-40 years
41-50 years	51-60 years
61-70 years	71+ years
Prefer not to say	

Q4 For how many years have you been practicing as a qualified Clinical Psychologist?

0-5 years	6-10 years
11-20 years	21-30 years
31-40 years	40 + years
Prefer not to say	

Q5 Please answer the following questions based on where **most of your team formulation experience has been gathered**. This may be where you are currently working or where you have previously worked. What type of service is this? (tick all that apply)

Independent provider	NHS
Private practice	Other _____

Q6 In which area of Clinical Psychology is the service? (tick all that apply)

Adult mental health	Intellectual/developmental disability
Child and adolescent mental health	Older adult
Physical health/medical psychology	Neuropsychology
Forensic/prison/offender	Other _____

Q7 In which setting is the service? (tick all that apply)

Inpatient acute	Inpatient rehabilitation
Inpatient assessment & treatment	Inpatient ICU
Community team	Assertive outreach
Therapeutic Community	Crisis team
Intermediate care	IAPT
Outpatient / clinic setting	Physical health hospital
Other _____	

Q8 In which forensic setting is the service? (Tick all that apply)

High secure	Medium secure
Low secure	Locked rehabilitation
Community forensic team	Prison setting
Offender health	Probation
Other _____	

Q9 Please indicate how long (in total) you have been working in the service where team formulation is practiced

Less than 3 months	3 to <6 months
6 to <12 months	1 to <2 years
2 to <5 years	3 to <5 years
5 to <10 years	10 to <15 years
15 to <20 years	More than 20 years

Q10 Please indicate how long (in total) you have been actively involved in the practice of team formulation

Less than 3 months	3 to <6 months
6 to <12	1 to <2 years
2 to <3 years	3 to <5 years
5 to <10 years	10 to <15 years
15 to <20 years	More than 20 years

Q11 Have you received training in team formulation?

Yes	Unsure
No	

Q12 (If yes) Please describe the training you received

Q13 How would you describe your philosophical position? Please answer considering your approach to clinical practice.

Pragmatism (knowledge can have both subjective and objective meaning; causal relationships can exist but are subject to interpretation)

Positivist (knowledge is built upon observable phenomena and can be measured using scientifically reliable and valid tools)

Critical realism

Interpretivism (knowledge is perceived, has a subjective meaning and is context-bound)

Constructivism

Other _____

Unsure

Part 2. About Team Formulation in the service you work (or have worked) in.

Guidance: The following questions ask you to draw upon your own experiences of team formulation. One general function of team formulation is "to enable team members to develop a shared psychological understanding of presenting difficulties; which summarises their nature, explains their development and maintenance, and guides intervention planning" (Geach, Moghaddam, & De Boos, 2017). You may know this as formulation meetings or formulation groups. To answer the following questions, please focus on **the service where most of your team formulation experience has been gathered.** This may be where you are currently working or where you have previously worked.

Q14 With specific consideration to the service where most of your team formulation experience has been gathered, why is team formulation used?

Q15 At which stage is team formulation used?

After first contact with the service user

Following completion of assessment phase

During intervention phase

Following an incident

In preparation for another professional's meeting (e.g., Tribunal, CPA meeting, Review meeting etc.)

Upon consideration of discharge

Other (please state): _____

Q16 Who typically decides when there is a need for team formulation?

Lead or key professional for a service user (e.g., named nurse or care co-ordinator)

Clinical psychologist

Another professional within the team

Other

Q17 How is team formulation typically implemented in the service?

As psychological consultation

As a reflective-practice group

Informally, when the opportunity arises (e.g., through conversations with other professionals, during other staff meetings such as handover, ward round, CPA meetings)

Other (please describe)

Q18 How often is team formulation used in the service?

Weekly	Fortnightly
Once every 6-12 months	Infrequently
Variable	Other (please state): _____

Part 3. Examples of Team Formulation Practice

The following two sections ask for two specific examples of team formulation that you were involved with.
1. The first section asks about one example of team formulation that you perceived to have ***worked well***.
2. The second section asks about an example of team formulation that you perceived ***did not*** work well.
Please maintain the anonymity of the service user, staff and organisation by omitting identifiable information.

Q19 Firstly, are you happy to provide an example of team formulation that you were involved with that **you perceived to have worked well?**

Yes – continue No - skip to next stage

Q20 What was the purpose of this team formulation?

Q21 Please describe the process by which this team formulation was created. You may want to consider:

- How the focus of the formulation was determined
- How presenting problems were identified
- How different team members contributed ideas
- How the psychological model, theory or framework was used
- How information was captured
- How the purpose of the team formulation (as specified above) was achieved

Q22 In what way(s) did this team formulation work well? Why did it work well?

Q23 Please describe how (if at all) the formulation was used in practice?

Q24 What changes (if any) occurred from this team formulation? This may be positive or negative changes related to the following:

Changes for the service user _____

Changes for the professional team _____

Changes for the service or organisation _____

Q25 In this example of team formulation that worked well, please describe any challenges or limitations and how these were managed

Q26 Please use this space to provide any additional information about this example of team formulation that was not captured in previous questions

Q27 Are you happy to share details of an example of team formulation in practice that: you were involved with that you perceived ***did not*** work well? Please maintain the anonymity of the service user, staff and organisation by omitting identifiable information.

Yes - continue to questions No - skip to next stage of the survey

Q28 What was the purpose of this team formulation?

Q29 Please describe the process by which this team formulation was created. You may want to consider:

- How the focus of the formulation was determined
- How presenting problems were identified
- How different team members contributed ideas
- How information was captured
- How the psychological model, theory or framework was used
- How the purpose of the team formulation (as specified above) was achieved

Q30 In what way(s) did this team formulation not work well? Why did it not work well?

Q31 How (if at all) was this team formulation used in practice?

Q32 What changes (if any) occurred from this team formulation? This may be positive or negative changes

Changes for the service user _____

Changes for the professional team_____

Changes for the service or organisation _____

Q33 Please use this space to provide any additional information about this example of team formulation practice not captured within previous questions

Part 4: Team Formulation Evaluation

The following questions relate to experiences of team formulation in practice broadly and aim to capture general views.

Q34 How is team formulation evaluated? Please state sources of information or measures used

Q35 How do you know when a team formulation has been beneficial?

Q36 How do you know when a team formulation has not been beneficial?

Part 5: Rating Outcomes of Team Formulation in Practice (Penultimate Page of Questions)

The following outcomes were identified by the Division of Clinical Psychology (2011) as resulting from team formulation. Based on *your own practice and experience*, please rate how *frequently* each outcome arises from team formulation using the following scale:

Always	100% of cases
Frequently	at least 75% of cases
Sometimes	at least 50% of cases
Rarely	less than 25% of cases
Never	0% of cases

	Always (1)	Frequently (2)	Sometimes (3)	Rarely (4)	Never (5)
achieving a consistent team approach to intervention					
helping team, service user and carers to work together					
gathering key information in one place					
generating new ways of thinking					
dealing with core issues (not just crisis management)					
understanding attachment styles in relation to the service as a whole					
supporting each other with service users who are perceived as complex and challenging					
drawing on and valuing the expertise of all team members					
challenging unfounded 'myths' or beliefs about service users					
reducing negative staff perceptions of service users					
processing staff counter-transference reactions					
helping staff to manage risk					
minimising disagreement and blame within the team					
increasing team understanding, empathy and reflectiveness					
raising staff morale					
conveying meta-messages to staff about hope for positive change					
facilitating culture change in teams and organisations					

The following nine outcomes were identified by a recent systematic literature review (Geach, Moghaddam, & De Boos, 2017) as linked to team formulation in practice. Based on *your own practice and experience*, please rate how *frequently* each outcome arises from team formulation using the following scale:

Always	100% of cases
Frequently	at least 75% of cases
Sometimes	at least 50% of cases
Rarely	less than 25% of cases
Never	0% of cases

	Always (1)	Frequently (2)	Sometimes (3)	Rarely (4)	Never (5)
Increased staff team cohesion					
Improved therapeutic milieu					
Increased staff satisfaction with psychological formulation					
Increased staff understanding of the service user					
Increased staff empathy towards service user					
Influence on service user's treatment					
Improved service user's perspective of their relationship with staff					
Worsened staff perspective of their relationship with the service user					
Reduced service user problem/symptom severity					

Q38 Please specify additional outcomes that, in your opinion, arise from team formulation practices

Positive outcomes _____

Negative outcomes _____

Part 6: Rating Key Aspects of Team Formulation in Practice (Final Page of Questions)

The following items are identified key aspects of team formulation in practice. Based on your own experience of team formulation in practice, please rate how necessary each aspect is for best team formulation practice using the following scale:

Essential	Necessary for every team formulation
Desirable	Useful for particular formulations but not essential
Neutral	Neither desirable nor detrimental to team formulation
Undesirable	Unwanted and potentially detrimental to team formulation

	Essential (1)	Desirable (2)	Neutral (3)	Undesirable (4)
A protected time and space to meet				
Multi-disciplinary representation				
Clinical Psychologist as a facilitator or leader				
Reviewing the service user's history or life events				
Understanding the service user as a person beyond their difficulties				
Chipping in with ideas– not having to know the 'right' answer				
Using psychological theory as a framework or structure				
Limited use of a biological or medical understanding of the client				
Reflecting on the challenges of working with the service user or the wider system				
Discussing risk issues				
Learning new information				
Summarising the presenting problems				
Exploring triggers and maintenance factors to the problem				
Recognising protective factors or strengths of the service user or wider system				
Identifying hypotheses for the service user or presenting problem				
Forming a plan for working with the service user or presenting problem				
Having a document / product to refer to following the discussion				

Appendix J: Recruitment Networks

Approached Network	Contact Method	Contact Date
Pilot Participants who expressed an interest	Email directly	October 2017
DClinPsy course staff and supervisors in the UK	Email advert via administrators	06 January 2018
Twitter	Tweet survey url	12 December 2017, 02 January 2018
Clinpsy Forum	Post to research page of forum	12 December 2017
LinkedIn	Post with advert and survey url	05 December 2017
Snowballing	Potential participants invite other potential participants	December-January
ResearchGate	Post with advert and survey url	05 December 2017
Facebook groups:	Social Media advert posted to Facebook pages	
Clinical Psychologists working with People with Learning Disabilities		19 December 2017
UK based Clinical Psychologists		19 December 2017
UK Clinical Psychologists working with Older People		02 January 2018
UK Clinical Psychologists working with Child and Adolescent services		02 January 2018
Clinical Psychologists PTSD/Trauma specialist interest group		04 January 2018
DCP Special Interest Faculties	Email advert via faculty chairs	December 2017 - January 2018

Appendix K: Recruitment Adverts

Email Advert

Dear All

As part of my Doctorate in Clinical Psychology, I am recruiting participants for my study: *How Can Team Formulation Work Best in Clinical Psychology Practice?*

This study was approved by the University of Lincoln School of Psychology Research Ethics Committee.

What are the aims of this study?
This study aims to describe how Clinical Psychologists best implement team formulation through practice-based examples.

To be included, you must be:

- A registered Clinical Psychologist practicing within the UK
- Have some experience of involvement in team formulation in practice

What does taking part involve?
The study involves completing an online survey which takes approximately 45 minutes to complete. You will be asked about your opinion on team formulation issues. You will also be asked to describe some of your team formulation practices if you wish to. All data collected will be kept confidential; only the research team will have access to the data. You will be asked to provide a unique identification code so that your response is anonymous.

If you are interested in taking part, please click this link:
https://unioflincoln.eu.qualtrics.com/jfe/form/SV_3mClikPA3I6Pw0d

Thank you

Nicole Geach, Trainee Clinical Psychologist

Email: 08105312@students.lincoln.ac.uk

Address: Trent Doctorate in Clinical Psychology, Sarah Swift Building, University of Lincoln, Brayford Wharf East, Lincoln LN5 7AT

Social Media Advert

Hi All

I'm recruiting Clinical Psychologists for an online survey as part of my DClinPsy research project. This study aims to describe how Clinical Psychologists best implement team formulation in practice.

I'm recruiting registered Clinical Psychologist practicing within the UK who have some experience of involvement in team formulation in practice.

The study involves completing an online survey about team formulation which takes approximately 45 minutes to complete. This study, including recruitment from social media, was approved by the University of Lincoln School of Psychology Research Ethics Committee.

If you are interested in taking part, please click this link:
https://unioflincoln.eu.qualtrics.com/jfe/form/SV_3mClikPA3I6Pw0d

Thank you

Nicole

Appendix L: *A Priori* Frameworks

Framework One: Team Formulation Forms

Category	Evidence	Description	Criteria
Formulation Focussed Consultation	Berry et al., (2009; 2015); Ingham, (2011); Ramsden et al., (2014)	Structured psychological consultation aimed at improving service effectiveness	▪ Aims to enhance psychological appraisals of service user to inform effective care ▪ Highly structured and collaborative meetings ▪ Systematic use of psychological theory ▪ Psychologist leads as expert
Sharing Ideas Informally	Christofides et al., (2012)	Informal discussions integrated into routine practice	▪ Share ideas to enhance team psychological understanding ▪ Unstructured approach ▪ Integrated within everyday practice ▪ Psychologist as peer
Reflective practice Meeting	Davenport, (2002); Murphy, Osborne, et al., (2013); Summers, (2006); Wilcox, (2013)	Reflective practice meetings or groups, open to all staff or SU core care team	▪ Increase understanding of service user and staff experiences of service user ▪ Semi-structured meetings ▪ Space for discussing experiences of service user using psychological theory ▪ Psychologist as facilitator

Framework Two: Team Formulation Outcome Domains

Category	Evidence
Service Level Indicators • Length of Stay • Medication reduction • Relapse in mental health • Risk management	Berry et al. (2015)
Team Level Indicators	
Staff Completed Measures • Therapeutic Milieu (Ward Atmosphere Scale) • Therapeutic Alliance (Working Alliance Inventory) • Understanding, competence and empathy towards working with service users (Personality Disorder - Knowledge and Skills Questionnaire) • Staff attitudes towards service user (Illness Perception Questionnaire, Perceived Criticisms Scale) • Staff burnout (Maslach Burnout Inventory)	Berry et al. (2009; 2015); Ramsden et al. (2014)
• Staff satisfaction (author developed questionnaire)	Ramsden et al. (2014); Whitton et al. (2016); Wilcox (2013)
Qualitative (Self-report via Interview)	Christofides et al. (2012); Murphy et al. (2013); Summers (2006)
Facilitator's Perspective	Wilcox (2013); Davenport (2002)

Framework Two: Team Formulation Outcome Domains

Category	Evidence
Service User Level Indicators	
Service User Completed Measures • Therapeutic Milieu (Ward Atmosphere Scale) • Therapeutic Alliance (Working Alliance Inventory) • Symptom severity (Positive and Negative Symptoms Scale, Global Assessment of Functioning)	Berry et al. (2015)
Frequency, severity and impact of service user's 'challenging behaviour' (staff observation)	Ingham (2011)
Service user involvement (extent to which service user voice is understood and included in formulation)	Rowe & Nevin (2013)

Appendix M: Coded Framework Analysis Example

Theme	#	P66	P30	P60	P31	P2
Function: review care	5	*Reviewing care when feeling stuck*	*Long-term service user – review care and risk management*	*To clarify the contributory factors, and their interactions, behind the client's offending history*	*This formulation was completed a number of weeks into a young person's admission. Thin gs felt stuck*	*Facilitate thinking about a client where issues felt stuck... share different perspectives and understandings of the client*
Function: change/ improve future intervention	5	*there was more we could be providing him as a team*	*purpose of changing/ targeting interventions if necessary*	*Clarify… where the targets of future support and intervention should be*	*… the team wanted to consider ways forward*	*To improve communication between social care and health care professionals*

Theme	#	P66	P30	P60	P31	P2
Role of Clinical Psychology	4	*Presented information to the MDT at the start…, Minimal direction from facilitators… allowed suggestions for other ideas from members of the team*	*Questions asked [to MDT]… [Model used visually to] help prompt wider thinking*	*A wide-ranging discussion with the whole MDT, led by clinical psychologist… CP then wrote a report which was based on these discussions*		*CP used model to prompt further questions*
Inviting MDT member perspectives	5	*several members of the MDT provided their experiences and opinions.* *… allowed suggestions for other ideas from members of the team*	*… questions asked to those who knew service user and boxes filled in whilst talking*	*A wide-ranging discussion with the whole MDT …report based on these discussions, which was shared as a draft and revised following comments from key nurse, psychiatrist and S&LT.*	*Different team members actively encouraged to attend - all contributed through general discussion.*	*The facilitator then ensured all different voices and perspectives were heard by asking all team members their thoughts/ views on what was being said*

Theme	#	P66	P30	P60	P31	P2
Significant involvement of key workers	5	*Particular attention paid to his key-workers, with whom he had a good relationship*	*questions asked to those who knew service user*	*review of a specific autism assessment by S&LT and psychiatrist … comments from key nurse, psychiatrist and S&LT.*	*…generated a number of ideas that were actioned (e.g. key worker to develop care plan with the young person etc.)*	*The individual who knew the client best gave information*
Disseminating formulation to the team	4	*Entered onto RiO and circulated to all staff on the ward.*		*clinical psychologist then wrote a report based on these discussions, which was shared as a draft and revised following comments from key professionals*	*added to electronic records and will be summarised at next ward round.*	*disseminated in the next whole team MDT meeting*

Theme	#	P66	P30	P60	P31	P2
Discuss service user history	3	*service user's background was felt to be relevant to his current presentation and needs*		*Past reports of offending, self-reports by client, family contributions, and professional reports were viewed and discussed.*		*Individual who knew the client best gave information about the client's current situation and background.*
Linked to other MDT meetings	3	*MDT had jointly agreed during a ward round that focussing on this service user would be beneficial*			*Agreed to hold meeting as part of ward round discussions.*	*The formulation model… was disseminated in the next whole team MDT meeting*
Psychological model used	4	*Five Ps*	*Five Ps, Social GRACESS*		*Five Ps*	*Roseberry Park*

Theme	#	P66	P30	P60	P31	P2
Care plan amended/ developed	5	*allowed suggestions for other ideas from members of the team who would usually not be involved in writing care plans*	*Planned positive risk taking with client*	*Re-designed how the risk assessment and management plan was drawn up and promoted for future support providers to utilise in supporting the client.*	*we generated a number of ideas that were actioned (e.g. key worker to develop care plan with the young person etc.)*	*care plan was amended with the agreed actions.*
Identifying action points	4	*triggers and ways to resolve risk incidents were identified*		*led to an action to explain autism to the client*	*we generated a number of ideas that were actioned (e.g. key worker to develop care plan with the young person etc.)*	*brief summary of action points was agreed.*

Theme	#	P66	P30	P60	P31	P2
SU outcome: Change to care	4	*Changes to his care plan were made with a view to improving his mental state and quality of life. (e.g. escorted leave was introduced to a location that he was keen to visit).*	*stopped antipsychotic meds with support of team as informed choice rather than automatic view they should continue meds*		*More person-centred care planning.*	*Her support providers were changed*
SU outcome: feel listened to	3		*hope they felt heard and validated*	*He felt better understood and listened to*	*Hopefully feeling more empowered*	
Staff outcomes: Increased communication/ functioning	4	*team members felt able to share their honest opinions and experiences*		*… ensure that effective team actions, including communications , were consistently taken*	*Joined up thinking about the young person.*	*The team had an experience of discussing a 'sticking point' in a frank way and were able to move on from this and continue to work effectively together*

Theme	#	P66	P30	P60	P31	P2
Staff outcomes: Increased understanding	3	*The team also felt that they knew the service users better… Greater understanding of his risk issues*		*The team anticipated anxiety provoking interpersonal situations for the client more accurately,*		*The team had a shared understanding of the client so were able to communicate more effectively about her care plan and support*
Service outcomes: Engagement with Psychological approaches	2	*The psychology team were approached more for consultation by MDT members after team formulation meetings were introduce*	*Greater acceptance not everyone with psychosis wants or needs antipsychotics and so hope to influence future practice*			

Poster

How can Team Formulation Work Best in Clinical Psychology Practice?

UNIVERSITY OF LINCOLN

Nicole Geach | Dr Danielle De Boos | Dr Nima Moghaddam

Trent Doctorate in Clinical Psychology

University of Nottingham
UK | CHINA | MALAYSIA

Background

Team formulation is the process by which professional teams develop a shared psychological understanding of presenting difficulties to guide intervention. This is a popular practice promoted by the Division of Clinical Psychology (2011;2015). However, the extant research conveys unstandardised team formulation implementation and evidence of the effects of team formulation is limited (Geach et al., 2017). There is also a lack of articulation of the potential team formulation key processes that might contribute to desired outcomes in practice.

Using practice-based instances where Clinical Psychologists have experienced workable implementation will allow for further understanding of how team formulation can be best implemented in practice.

Aims

In the context of Clinical Psychology practice in the UK, this study aimed to:

1. Characterise team formulation types
2. Understand whether/how team formulation is evaluated
3. Identify factors that may support/obstruct team formulation in practice

Method

We used an online survey to UK Clinical Psychologists

- 49 participants described a successful example of team formulation
- 32 participants described an unsuccessful example of team formulation

Examples were analysed using Framework Analysis (Ritchie & Spencer, 1994) to identity common and unique features

Discussion

There appear to be specific team formulation types with differing functions. Across types, there are proposed common factors that support and obstruct workable implementation in practice. Whilst this offers some understanding of 'successful' team formulation, there remains a dearth of understanding about 'effective' team formulation as feasible evaluation methods remain unknown.

In clinical practice, engaging with team's distress, managing group dynamics, contextualising different views, and linking the team formulation to meaningful changes to practice appear important facilitation strategies.

Future research should: (1) validate the findings from this survey in practice; and (2) understand the key processes and links to outcomes from team formulation in practice.

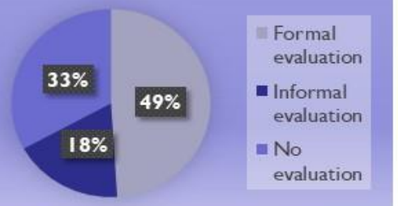
Results

1. Team Formulation Types

Four types of team formulation were identified based upon shared function and features:

- Case Review
- Challenging Behaviour
- Staff-Service User Relationship
- Using Service User Views

2. Team Formulation Evaluation



- Half of participants reported formally evaluating team formulation
- Evaluation was targeted at three levels (service, staff and service-user)
- Evaluation methods were limited by issues of sensitivity, validity and specificity
- Some reported difficulty knowing how to approach team formulation evaluation

3. Team Formulation Supporting and Obstructing Factors

A number of factors were identified. These were common across team formulation types:

Supporting Factors

- Positive relationship between Clinical Psychology and the team
- Engaging with team distress, contextualising emotional responses
- Drawing upon team knowledge
- Managing different perspectives, identifying a shared team goal
- Cohesive, psychological care plan

Obstructing Factors

- Resistance to Psychological approaches amongst the team
- Team distress about own safety, high levels or anxiety or anger
- Difficulties exploring alternative perspectives
- Unhelpful group dynamics
- Fractured team understanding and implantation in practice

References

Division of Clinical Psychology. (2011). *Good practice guidelines on the use of psychological formulation*. Leicester. Division of Clinical Psychology. (2015). *Forum special issue: Team formulation. Clinical Psychology Forum, 275*. Leicester.

Geach, N., Moghaddam, N. G., & De Boos, D. (2017). A systematic review of team formulation in clinical psychology practice: Definition, implementation, and outcomes. *Psychology and Psychotherapy: Theory, Research and Practice, 91*(2), 186–215.

Ritchie, J., & Spencer, L. (1994). Analyzing qualitative data. In A. Bryman & R. Burgess (Eds.), *Qualitative data analysis for applied policy research* (pp. 173–195). London: Routledge